ELECTRICAL Wholesaling

THE INDUSTRY'S SALES & MANAGEMENT MAGAZINE

A McGRAW-HILL PUBLICATION

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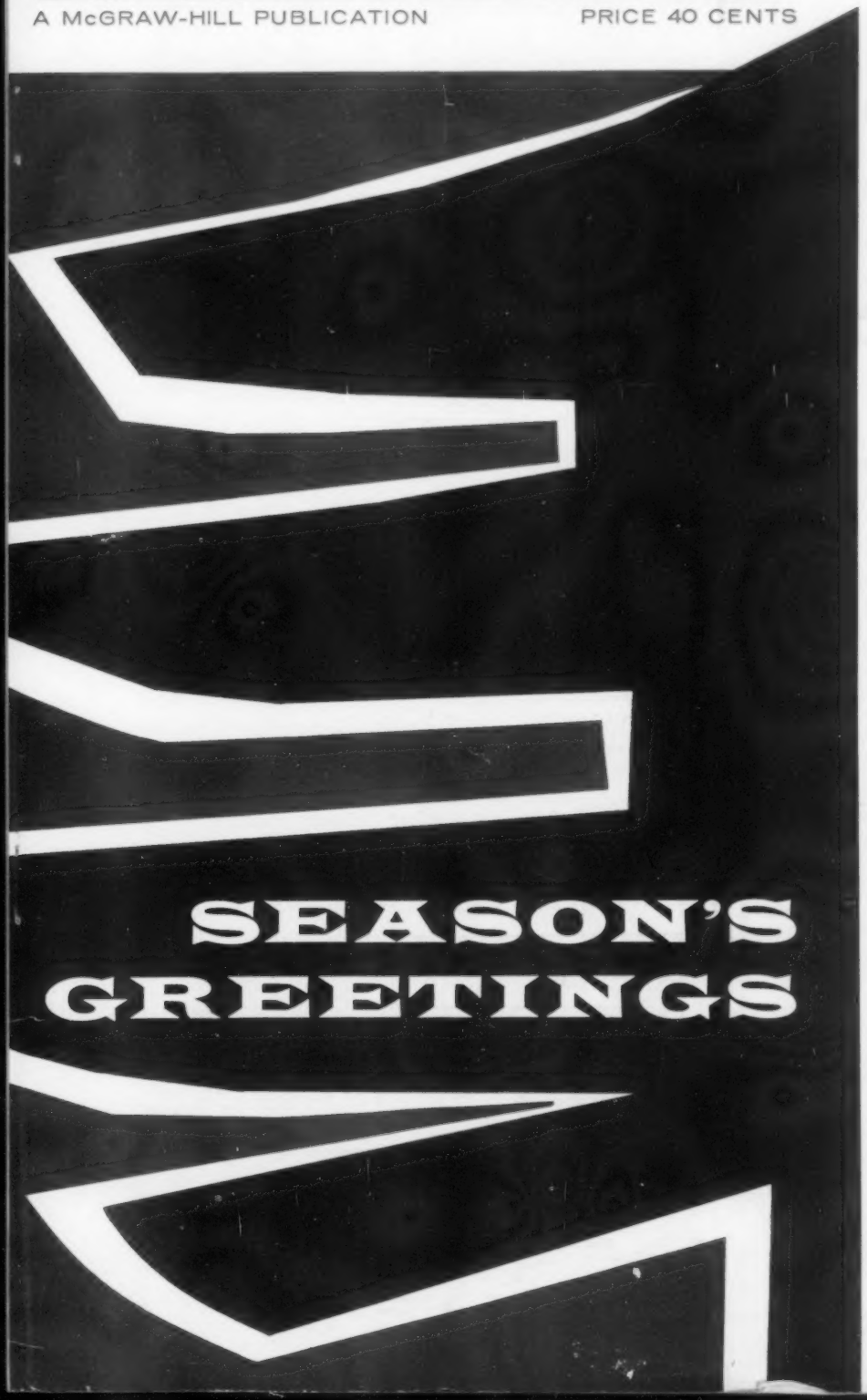
DECEMBER · 1960



How To Pinpoint Product Profitability SPECIAL REPORT— page 61

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An Agent Speaks Up For His Warehouse page 48

You get MORE when you choose an...

APPLETON® portable REELITE®

Greater Selection... Lower Cost with Finest Quality

7P Series—Plug In Type

Unlimited mounting flexibility is built into this Reelite. Universal type mounting bracket for wall use. Hook eye for ceiling use. Plugs into receptacle. Positive stop action. Equipped with handlamp, guard, switch and half reflector.

APPLETON Reelites help prevent employee injuries due to extension cord entanglements.

No matter what the need, you'll find there's an APPLETON Reelite to do the job . . . a reel so sturdily built, so well engineered it's a bargain at the price.

Eliminate the hazards of tangled, twisted cords and assure yourself of durable equipment that gives years of service . . . by installing APPLETON portable Reelites.

All APPLETON portable Reelite models are equipped with regular 2 or 3 conductor SJO cord. Where 3-conductor cord is used, the Reelite is grounded since the extra conductor is connected directly to the Reelite frame.

7S Series—Outlet Box Mounting

A finest quality Reelite with continuous 360° swivel action. Uninterrupted power with double silver alloy collector brushes. Handlamp must be ordered extra. Special vaporproof model is equipped with vaporproof handlamp.

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Hanger plate fits neatly over any 4" octagonal outlet box. Up to 50 feet cord length depending on model. Handlamp must be ordered extra.

*Special light spring tension models for use by garment manufacturers. These models will not support weight of handlamp.

Handy Order Information

CATALOG NO.	CORD LENGTH	CORD TYPE	CATALOG NO.	CORD LENGTH	CORD TYPE
RE-7P2	25 Ft.	18-2 SJO	RE-1519G	40 Ft.	18-3 SJO
RE-7P2G	25 Ft.	18-3 SJO	RE-1520	50 Ft.	18-2 SJO
RE-7S2	25 Ft.	16-2 SJO	RE-1520G	50 Ft.	18-3 SJO
RE-7S2G	25 Ft.	18-3 SJO	*RE-1521	25 Ft.	18-2
RE-7SV2	20 Ft.	18-3 SJO	*RE-1521G	25 Ft.	18-3
*RE-1511	50 Ft.	18-2	RE-1532	12 Ft.	16-2 SJO
RE-1519	40 Ft.	16-2 SJO	RE-1532G	12 Ft.	18-3 SJO

Write for Descriptive Bulletin

Gives complete details on all models of APPLETON portable Reelites . . . with accessories illustrated. Write for Free Bulletin PRT 259

Only APPLETON Makes Reelites

APPLETON ELECTRIC COMPANY
1701 Wellington Avenue · Chicago 13, Illinois

Also Manufacturers of:

"Eagle Claw" Switch Boxes

Malleable Iron Unilets

Explosion-Proof Hand Lamp

"ST" Series Connectors

Simplex TIREX

BALANCED COMPOUNDING means BALANCED RESISTANCE

. . . to all of the factors that attack portable cables and cords

It is not enough that portable cables or cords have the ability to resist attacks by water or oil, or any other single factor. To provide truly dependable service over long periods of time, portable cables must have balanced resistance to *all* deteriorating factors.

Since there is no one ingredient that has inherent resistance to all of these factors, the insulation or jacket of the portable cable or cord must be a combination of ingredients.

Balanced Compounding refers to the scientific selection of these ingredients and the proportions in which they are mixed. Where the balance is upset by loading the compound with any *one* ingredient, resistance to *one* factor *may* increase, *but resistance to other factors will be lessened.*

Proof of the worth of Simplex Balanced Compounding can be found in the fact that Tirex portable cables have been successfully performing under the most rugged operating conditions for periods ranging up to twenty years.

Simplex

BALANCED COMPOUNDING CURED IN LEAD

WIRE & CABLE CO.

Cambridge, Mass. • Newington, N. H.

SQUARE D COMPANY
ELECTRICAL EQUIPMENT

SPRING 5-2300
(CHICAGO)

EXECUTIVE PLAZA

PARK RIDGE, ILLINOIS

the Holidays
1960

to Our Distributors—

As another year rolls to a close, it's good to look back over the past months and "take inventory." One of 1960's most gratifying aspects has been the continuing sense of real partnership between our distributors and ourselves. It's this kind of mutual trust and respect that generates success, and will continue to do so in the years ahead.

For your contribution, our sincere thanks—and to you and yours—

a Happy Holiday Season,
a Prosperous New Year!

Bill

W. J. Moriarty
Manager, Distributor Relations

Print Order This Issue
13,785

DECEMBER 1960

ELECTRICAL Wholesaling

THE INDUSTRY'S SALES & MANAGEMENT MAGAZINE

FEATURES

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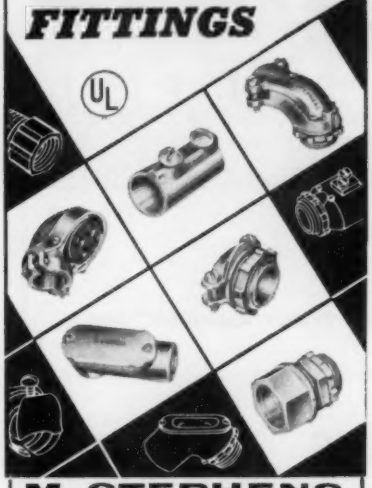
PRECISION ENGINEERED FITTINGS



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LOS ANGELES 11, CALIF.
ADams 1-9147

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Dallas 20, Texas

Mr. W. D. Reese
Brenner Electrical Sales
2608 Parkview Drive
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DECEMBER 1960

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Credits and Collections

AS THE VOICE of the editors of ELECTRICAL WHOLESALING, we'd like to echo the holiday message on our cover and wish all of you the merriest of Christmases and the happiest of new years to come.

Recall last month's cover—the one with the distorted money that dramatized the new trend to realistic resale prices? Well, thereby hangs a tale.

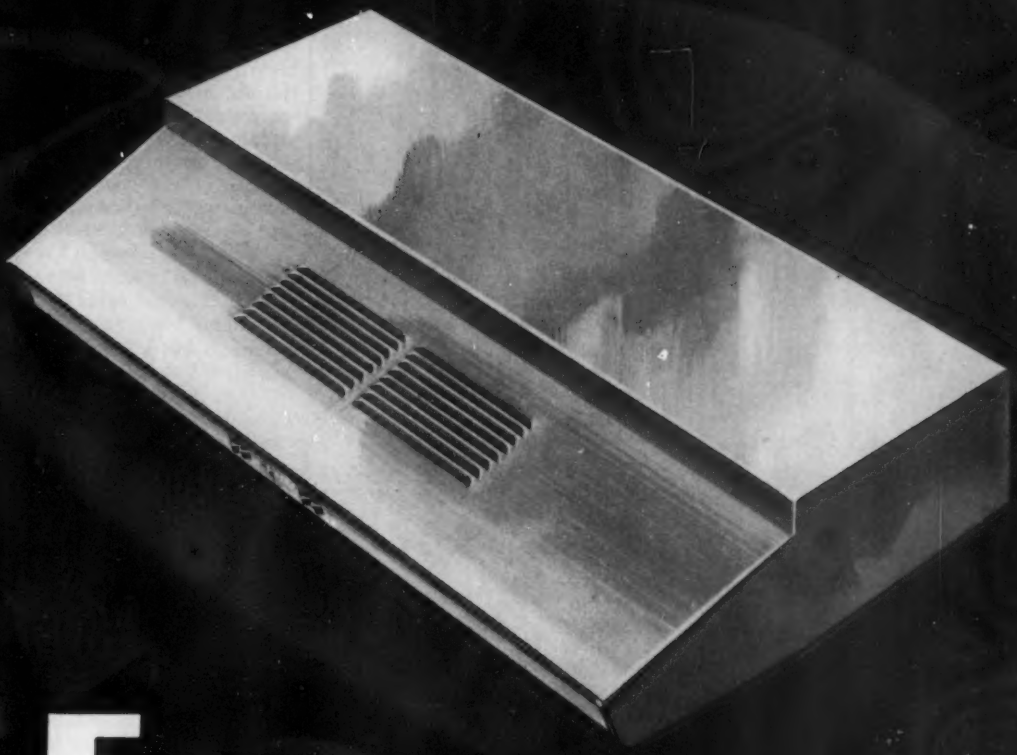
Dick Ream—now Midwest district advertising sales manager for Electrical Construction & Maintenance, but formerly with EW—was heading for New York and his 25th anniversary company dinner on November 16th.

Just before Dick left, Jack Kress, advertising manager for Essex Wire Corp., threw him a puzzler. Seems that Jack Stewart, v.p. in charge of sales for the wire divisions of Essex, is a coin collector. His specialty: silver dollars. His question: where did EW get the 1878 cartwheel on the cover? **In spare moments during his two days in New York, Dauntless Dick**—slightly aided by his old buddies, us editors—tracked down the cover coin. Alas, it had been returned after photographing to the Chase Manhattan Bank branch in the McGraw-Hill Building. **Cover in hand, Reckless Richard** button-holed the ass't. manager, Louis Esposito, and began to plead his case, opening with "A funny thing happened to me on the way from Ft. Wayne . . ."

Three hours later: mission accomplished. Dick Ream had an 1878 silver dollar to take back courtesy of Chase Manhattan.

Seriously, we would like to salute Dick Ream on his 25th anniversary. He typifies all the fine qualities we've encountered among McGraw-Hill advertising sales people.

Happy Holidays!



FASCO

introduces

A NEW ERA IN RANGE HOODS

At the Housewares and Builders' Shows in Chicago FASCO will usher in a new era in range hoods! FASCO'S revolutionary Series 62 Electrostatic Hood will be unveiled.

The Series 62 Electrostatic Hood features clean, smart styling and quality construction, plus unique 3-step air filtration . . . a brand new product with a new approach and sales appeal!

You can't afford to miss this opportunity! See FASCO'S display of the revolutionary Series 62 hood in its premiere performance at the Housewares Show (space 747-9) and Builders' Show (space 356-8). This electronic product is designed to electrify your sales!

FASCO INDUSTRIES, INC. • Rochester 2, New York

AUTOMATIC HEATING DESPITE POWER FAILURE

7-Day Time Switch with
20 Hour RESERVE POWER!

Model 78001-L

Ideal Control for Heating, Air Conditioning, Ventilating, and Lighting in Schools, Public Buildings and Offices.

Check These *Exclusive* TORK Features:

- Should power fail precision spring mechanism takes over instantly . . . keeps on time for 20 hours!
- When power resumes electrically wound spring rewinds 10 times faster than used.
- Up to 12 operations a day with 2 hour minimum settings. Dial revolves once a week permitting longer or shorter periods of operation for each individual day, as well as skipping selected days.
- Choice of easy-to-set tab-type tripper dial . . . OR conventional ON-OFF dial!
- Available with Single Pole Single Throw, Double Pole Single Throw, Single Pole Double Throw, and Double Pole Double Throw switching.
- Highest capacity of any 7-Day Time Switch . . . up to 55 Amperes per pole.
- Compact, rugged design . . . same size as 24 hour models!
- Available without case, with bracket . . . or with Flush Enclosure, for panel mounting!

Here is the safest, most dependable Time Switch made . . . designed to meet the highest quality standards of Consulting Engineers and Architects. Insures comfort — no danger of Time Switch failing to operate when needed due to power failure. Economical too! No need for service screws to reset Time Switch after power failure.

Complete TORK catalog yours for the asking

TORK TIME CONTROLS, INC.
MOUNT VERNON, NEW YORK

In Canada: DOMINION ELECTRIC MANUFACTURING CO., LTD., TORONTO

Most Complete Line of Time Switches for Heating, Ventilating, Air Conditioning, Refrigeration, Water Softening, Sewage Disposal, Pumping, and General Electrical Applications.

LETTERS TO THE EDITORS

Salesman Speaks Up

Dear Sirs:

Many of the remarks by "top brass" are amusing (EW-Oct. '60, p. 70). Were they read by one outside our circle, he could only draw a conclusion that we "salesmen" have not outgrown our "cracker jacks."

Why this sudden outburst? The appliance industry always had packaged promotions. The combination house, an almost extinct operation, generally had one or more specialty men, and in their normal course of calls (they) automatically picked up the spiffs without diversion of their efforts.

Spiffs to salesmen covering industrial and/or contractors, hold very little inducement other than a seasonal promotion such as water coolers or lamps. It has a tendency to highlight such items above the routine products. As for lighting fixtures, if the spiff line does not fit the potential job, "salesman" will not sell himself short for the dangling buck, in preference to another line more suitable.

Spiffs on conduit, wire and cable are not only stupid but also a temptation as another approach to procure an order.

Many of the comments reflect the unspoken phrase, "Praised be Allah," No Spiffs on Motor Controls. A head of maintenance will only convert if he is unhappy with the operation or the service on his installed equipment or has been sold on the merits of another line. He tries to maintain a plan of standardization, therefore does not purchase this item, as he would locknuts and bushings wherein one of many good brand lines will serve equally as well.

In the area of supplies and equipment, the more lasting spiff for salesmen is that of product knowledge. A manufacturer having such a plan has no need for a cash dole system.

C. S. NEARMAN
MARLE CO.
STAMFORD, CONN.

Spreading the Word

Dear Sirs:

I am very much interested in obtaining copies of a reprint which appeared in the October, 1958 issue of ELECTRICAL WHOLESALING. This reprint was titled "New Footcandle Tables" (p. 79).

V. A. SECHLER
SYSTEM INDUSTRIAL SALES SUPVR.
OHIO POWER CO.
CANTON, O.

• *Sorry—our reprint supply is exhausted. Permission to reprint granted, subject to McGraw-Hill policy.*

TRIANGLE BITUMINOUS FIBER CONDUIT

YOU DON'T NEED GLOVES . . .

to install TRIANGLE Bituminous Fiber Conduit

PLASTIC COATING PROTECTS THE HANDS

Here's a fiber conduit that's really kind to your hands. TRIANGLE'S special transparent plastic coating keeps this conduit clean, easier to handle . . . minimizes skin burn.

STRAIGHT LINE *COLOR CODE STRIPE*

You identify TRIANGLE Bituminous Fiber Conduit at a glance. A straight color coding stripe runs the length of each section . . . white for Type I, orange for Type II. And, the TRIANGLE seal and type are printed all along the way . . . for easier identification.

LONG TEN-FOOT LENGTHS SAVE TIME AND MONEY

TRIANGLE Bituminous Fiber Conduit comes in long 10 foot lengths (as well as 8 and 5 foot lengths). Longer lengths mean fewer joints, faster installation, lower costs.

SEND FOR FREE CATALOG — *Illustrated catalog describes features, applications, installation procedures, etc. Yours for the asking by writing:*

TRIANGLE CONDUIT & CABLE CO., INC.

"It MUST Be Right!"

EXECUTIVE OFFICES: NEW BRUNSWICK, N. J.

Plants: New Brunswick, N. J., Landisville, N. J., Moundsville, West Va.

Where Are Your Profits Leaking?

". . . A high gross margin ratio is no guarantee of profitability."

This statement, based on the bedrock of a sound new approach to distribution cost accounting, stands out like a beacon in a special report in this issue (*page 61*). But the article does more than simply scotch a prevailing notion. It outlines some of the basic concepts of cost measurement and describes a suggested technique that will enable you to perform a distribution cost analysis on your own business.

The usefulness of such a tool is emphasized by the times. We are now in a period when the relentlessness of the profit-squeeze is unequalled. One of the basic problems confronting a distributor is his inability to pinpoint the areas directly responsible for profit leakage. This is traced in part, as stated in the report, to "the false assumption that costs are affected by and related to selling price. In actual practice, costs are seldom affected by the sales dollars of an individual transaction; they are affected, however, by the fact that a transaction occurred and by the physical characteristics of the items included."

The primary purpose of the distribution cost accounting technique detailed in this issue is two-stage: to enable management (1) to review those product characteristics which generate profitability or losses, and (2) to take the corrective measures that will eliminate or at least minimize unprofitable transactions. The benefits that may be obtained would include improvement of sales direction, institution of appropriate pricing policies, pinpointing of high expense areas, and factual measurement of employee productivity.

Properly applied and followed through, the approach outlined in "Pinpointing Profitability Through Distribution Cost Analyses" can put a business on the right track. We commend it to your attention in the belief that it can offer one of the most needed factors in the electrical distributing business today—a precise understanding of real costs and profits by products.

Tough Q's, Straight A's

Over the last five years, ELECTRICAL WHOLESALING **has published many words on the controversial subject of manufacturers' and agents' local warehouses.** These include excerpts from speeches by N. J. MacDonald, of Thomas & Betts, and Art Hooper, of NAED; an interview with Joe Mevis, of Nunn Electric Supply; and the observations of Dr. Edwin H. Lewis in the study he did for this publication.

Within the last year, the frequency with which we have dealt with this topic has stepped up—an analysis of the growth in agents' warehouses, an editorial on same, an angry letter from an agent, an editorial offering equal space for rebuttal, an agent's rebuttal, several more letters from agents and another editorial.

Now we are capping our coverage with an interview with an agent on the whys and wherefores of his warehouse. Ben Yanow, of B. N. Yanow and Co., Inc., Cambridge, Mass., in this issue (*page 48*) answers some questions we put to him. Several of these are tough, possibly even "loaded," but Yanow did not hedge in his replies. Through the frankness of his words, he builds a case for the ethically operated agent's warehouse.

While the position of this publication remains that, in terms of logic, local warehousing is the function of the wholesale distributor, it is clear that other factors—consigned stocks, local manufacturing plants, freight charges, insistence by some distributors on nearby back-up stocks—have muddied up this logic. They have also helped to create manufacturers' and agents' local warehouses. Faced then with the reality that these warehouses may be here to stay, distributors should at least assure themselves that they are ethically operated.

We commend this interview to your attention. Perhaps it will raise some questions. If so, put them in writing, and we'll ask Ben Yanow and other agents if they would care to answer them.

George Jamgochian

Editor

THIS ADVERTISEMENT

is appearing in leading electrical publications to help distributors sell more Blackburn products.

EASY WAY

TO FINISH A JOB

Socket set screws furnished as standard. Hex head screws available on all fittings at no extra cost. L35 and L70 furnished with slotted screw to allow tightening with screwdriver.

BLACKBURN

TERMINAL LUGS AND SPLICERS

- Quickly Installed—No Special Tools Required
- Highest Quality Materials Throughout
- Rugged, Durable Construction; Compact Design
- Choice of Bolt—Screw, Socket or Hex-head
- Economically Priced

Available Through Electrical Wholesalers Everywhere
Write for Latest Lug Bulletin Containing Specifications and Prices

JASPER BLACKBURN CORPORATION

1525 WOODSON RD., ST. LOUIS 14, MO., WYdown 3-9430

TOP OF THE NEWS . . . and its significance to you

Compromise Of Pleas In Antitrust Cases

An agreement has been reached between electrical equipment manufacturers and the federal government, allowing manufacturers to plead either no contest or guilty in 20 criminal price fixing cases. Sentencing will follow. **At last report, the situation was as follows:** Of the 20 cases, 13 will not go to trial and six others possibly won't either; one case is still in doubt. Agreement to dispose of 13 cases without trial came after the government withdrew its opposition to no contest pleas.

Distributors' Sales Drop Below '59 Level

Sales of electrical apparatus, supplies distributors fell sharply in September with a 7% drop below the same month of '59, and were 2% below the previous month of this year. The South Atlantic region recorded the greatest decline in sales with a 16% drop for September of this year, as compared to September '59. Sales totaled $2.93 billion for the first nine months of '60 as compared to $2.89 billion for the same period of '59. Inventory for September was 3% above the '59 level for the same month, but dropped 1% below the August level of this year.

NEMA Officers Elected; McGraw Awards Given

A. D. R. (Ross) Fraser has been elected president of the National Electrical Manufacturers Association for the year 1961. Fraser is president of the Rome Cable Div., Aluminum Company of America. Also elected were: W. R. Persons, vice president; and A. E. Pringle, II, treasurer. Persons is president of The Emerson Electric Mfg. Co., St. Louis, and Pringle is president of Pringle Electrical Mfg. Co., Philadelphia. Frazer succeeds N. J. MacDonald, president of The Thomas and Betts Co., Elizabeth, N.J., who has received the **James H. McGraw Award for Electrical Men.** He received a medal for cooperation and purse for his contribution to the electrical industry. McGraw awards have also been presented to J. F. Lincoln, chairman of the board of the Lincoln Electric Co., Cleveland; and Everett Morss, president of Simplex Wire and Cable Co., Cambridge, Mass.

New President, New Plans, New Year; What's Ahead In '61?

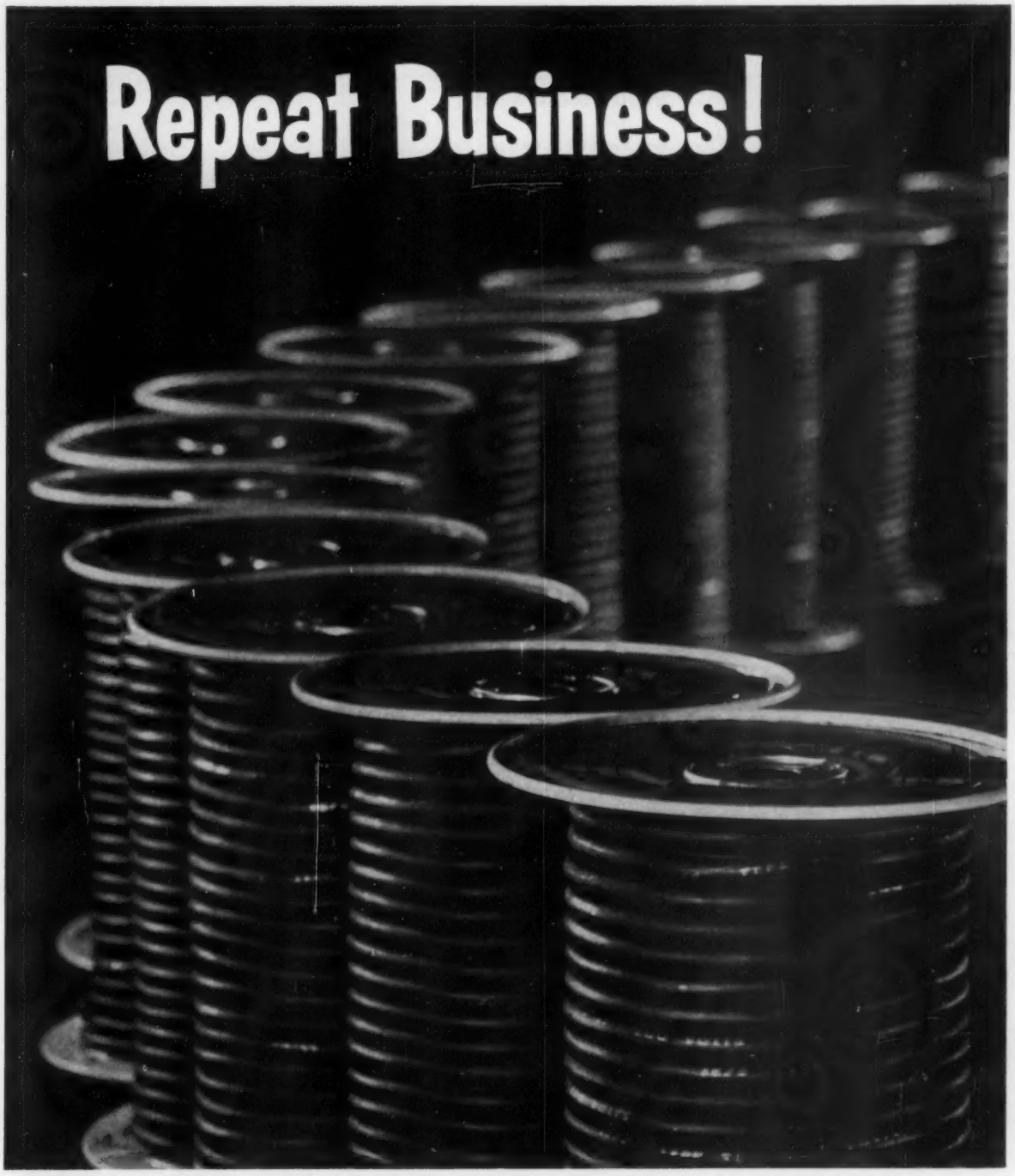
The first year of the "Soaring '60s" (not yet soaring) is at an end. **What's ahead in '61?** EW will answer this question next month in the annual Outlook and Review edition. **But here is a brief outline of what to expect in '61:** Some serious economic problems will face the new President when he takes office in January; **an anticipated business recession** (mild or otherwise), **an unfavorable balance of payments,** resulting in an outward flow of gold and other funds, **inflation threat,** and **unemployment.**

A drop in the Gross National Product from $505 billion to $503 billion in the third quarter of this year indicates a further drop for the beginning of '61. **Industrial production** reached a peak last January, when it stood at 111% of the 1957 average, and it is expected it will not top this mark next month. But the new year is predicted to be a year of growth over '60.

Business plans to spend $35.1 billion on new plant and equipment in the coming year—down 3% from the expected 1960 figure (*See page 100 for details*). **A rise in government spending,** along with **a rise in consumer spending** is expected to offset any decline in business spending. **Price reductions,** as a growth stimulant, will serve to reduce the inflation threat along with a high level of **private construction, and modest gains in housing starts.**

High Competition; Low Profits—No Dividends

Anaconda Wire & Cable Co. has taken no action on a common stock dividend usually declared at this time due to what has been called, **"highly competitive conditions and low profits prevailing in the wire and cable industry."**



ROYAL Portable Cords

stand out time and time again as the fastest selling cord line in the business! They give dependable performance and satisfaction to your customers time after time after time. The BIG line, too — Royal portable cords are made in rubber, neoprene, thermoplastic. Fixture wires. Lamp cords. Machine tool wires. Thermo cables. Bell wires. Coaxial cables. And more. All packaged for easy handling in stock and on the job. They're "made *right* . . . to be right on the job" for repeat sales, repeat SALES, REPEAT SALES! Call your Royal representative today.

ROYAL ELECTRIC ...an associate of ITT

ROYAL ELECTRIC CORPORATION
PAWTUCKET, RHODE ISLAND
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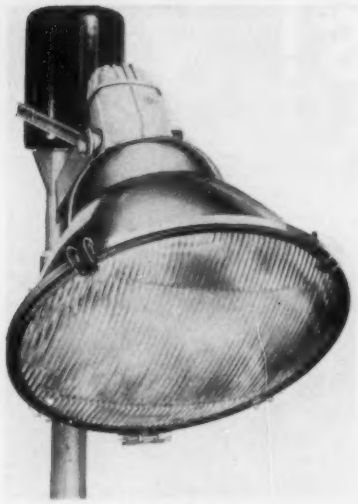
Royal Electric Company (Quebec) Ltd., Pointe Claire, Quebec

NEW PRODUCTS



Floodlights

Mercury vapor lamps said to provide widespread beam

Called Spreadliter, floodlight features uniform distribution without hot spots, 18-in parabolic aluminum reflector which avoids trapped light, fin cooled aluminum socket housing, installation with universal adjustment, servicing without tools for cleaning and lamp changing, and low overall weight construction. Available in wall, crossarm, pipe clamp and pole types. Ribbed lens type spreads beam for 1000-w lamp 164 deg horizontally, 120 deg vertically. Clear lens provides 96-deg circular beam. 400-w units with ribbed lenses have beam spreads of 163 deg horizontally, 101-deg vertically. Clear lens types have 89-deg circular beam pattern. • **Steber Div., Pyle-National Co., Chicago 51, Ill.**

Overload Relay

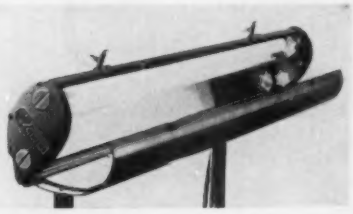
Compact unit compensates for heat and cold automatically

Relay operates on same time curve at all temperatures from —20 deg F to 165 deg F. Automatic compensation made possible by feature known as balancing bi-metal located in a separate compartment and not affected by heat applied to working bi-metal. This insures that tripping time will remain same regardless of temperature. Relay has calibrating screw that permits setting exact current desired. Offered in ratings from 25 to 300-amps, continuous current supplied with manual reset, but can be equipped with changeover lever to provide manual or automatic reset. • **The Arrow-Hart & Hegeman Electric Co., Hartford 6, Conn.**

Wall Heaters

Totally enclosed elements featured on new insert heaters

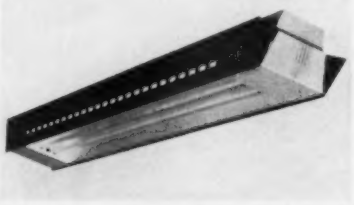
Radiant convector automatic electric heater has nickel-chromium heating elements embedded in cordierite ceramic. Grille lifts out and aluminum reflector is hinged for easy cleaning. Liquid filled thermostat on bottom of heater said to be sensitive, accurate and trouble free. Surface mounting adapter kit available for installation on masonry. Comes in 6 wattages from 1.5 to 5kw, and heating elements are warranted against burnout for 10 years. • **Cavalier Corp., Chattanooga 2, Tenn.**



Reflector Lamp

Said to be 338% brighter than other fluorescent units

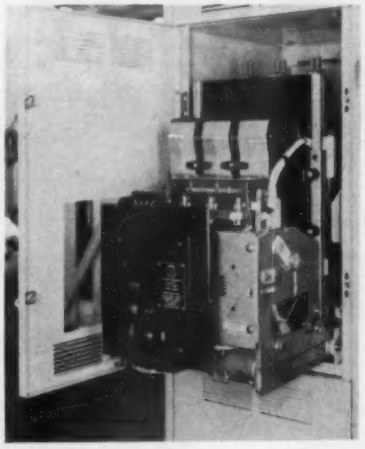
Compact lighting system utilizes fluorescent aperture, or "window," lamp. Claimed to be optically precise, the fixture beams a sheath of light evenly across area to be illuminated. Glare has been reduced to a minimum. • **Sylvania Electric Products, Inc., New York 17, N.Y.**



Infrared Heaters

Said to install as easily and quickly as lighting fixtures

For use in hard-to-heat indoor and outdoor areas, new Series CH heaters come in various models for use with linear quartz tubes or linear quartz lamps. Transfers radiant energy without heating intervening air. Said to be practical for supplemental heating, they can be installed without wall, floor or heating plant modification. Designed for overhead mounting, new unit has front loaded sockets for easy installation of elements. • **Fostoria Corp., Dept. 86, Fostoria, O.**



Circuit Breakers

Protection against fault currents up to 200,000-amps

New low-voltage, current-limiting circuit breakers integrate fault protection of current-limiting fuses with K-Line stored energy breakers and trigger fuse device that prevents single phasing. Manufacturer claims unit limits both magnitude and duration of fault current. Interlocking arrangement prevents closing breaker until blown fuses have been replaced. Adjustable time settings provide for delay or instantaneous tripping for low- and medium-capacity faults. Available for electrical or manual stored operation in two frame sizes. • **I-T-E Circuit Breaker Co., Philadelphia 30, Pa.**

Electrician's Tool

One unit serves three separate functions

Called Chek-Lite, unit is compact, about 3½- x 2- x ½-in, and weighs slightly more than 2 oz. Can be used as voltage tester, continuity tester, or flashlight. • **BullDog Electric Products Div., I-T-E Circuit Breaker Co., Detroit 32, Mich.**

Plastic Control Cable

General purpose control cable for utilities and industries

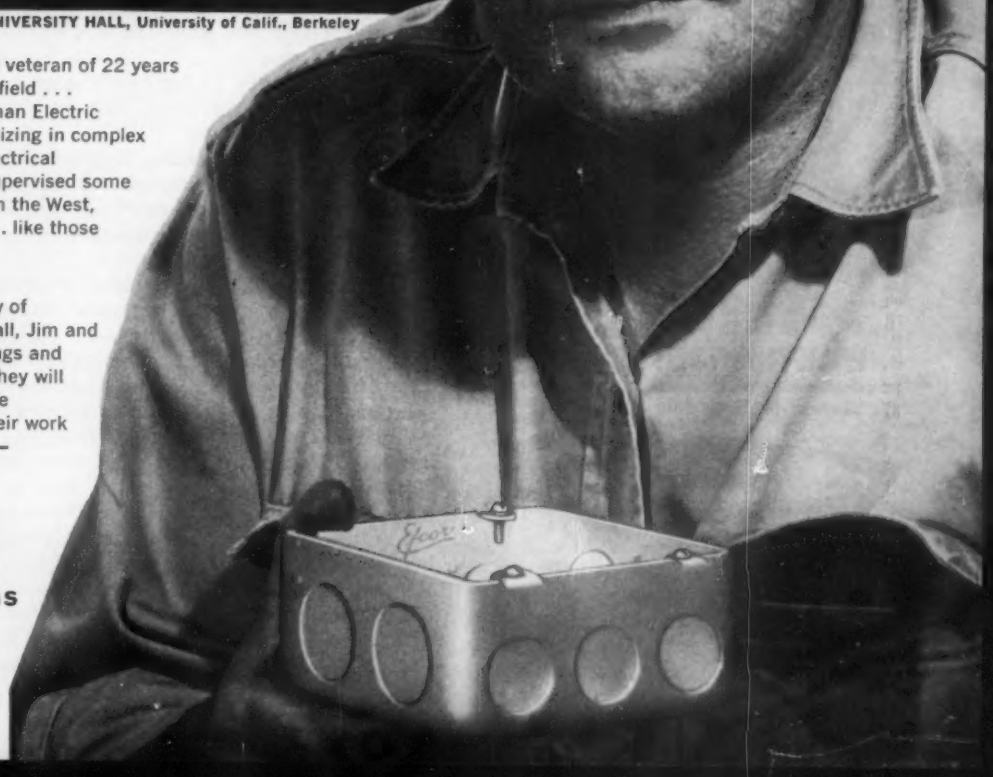
New small diameter plastic control cable—Okonite P-30—is low cost and suitable for all types of installations in wet or dry locations. Said to be 30% smaller and lighter than conventional rubber cable, it has high-quality dielectric multi-wall construction for electrical protection and provides for mechanical protection against chemicals and fire. • **Okonite Co., Passaic, N.J.**

The men who really know...know Efcor

UNIVERSITY HALL, University of Calif., Berkeley

Meet Jim Mahaney, seasoned veteran of 22 years in the electrical construction field . . . superintendent for the Coopman Electric Company; contractors specializing in complex commercial and industrial electrical installations. Jim, who has supervised some of the most interesting jobs in the West, insists on quality products . . . like those manufactured by Efcor, for a trouble free job.

For instance, in the University of California's new University Hall, Jim and his men have used Efcor fittings and boxes in an installation that they will be proud of for years. Men like Jim Mahaney take pride in their work **. . . the men who really know— know Efcor.**



EFCOR

ELECTRICAL FITTINGS CORPORATION

WOODSIDE 77, NEW YORK

ADVERTISEMENT

CAPITOL CIRCUIT

• **The new president, John Kennedy,** is expected to move quickly on several federal spending programs to stimulate the nation's economy: schools, housing, highways, defense projects and depressed areas. And it's apparent that his budget will call for deficit spending instead of higher taxes, to finance his plans.

Kennedy also is expected to appoint a host of new policy-making and regulatory officials to carry out his program. And he undoubtedly will set up, or urge creation of, several new federal agencies: a permanent White House body to review natural resource development, a possible cabinet-level "Department of Urbiculture"—to represent the city dweller and his problems as the Secretary of Agriculture does the rural dweller.

• **Kennedy will get Democratic control of the federal regulatory agencies** in a short time:

The Federal Trade Commission Chairman—Earl Kintner—and another FTC commissioner, Edward Mills, are serving only under interim appointments, and Kennedy needs to replace only one to get a 3-2 majority for his party. Kintner, a Republican, might be kept, but not as chairman.

The Federal Power Commission has one interim commissioner, Joseph Sweency, one vacancy, and another commissioner, Arthur Kline, whose term expires in June. These three appointments would give Kennedy a 3-2 hold in the FPC.

• **Kennedy also is expected to move fast for more federal "new starts" on multi-purpose water projects**—many with power. Hundreds of these (both Army engineers and Bureau of Reclamation) already are authorized, but funds haven't been appropriated to start work on them. In addition to new federal hydro-power starts, Kennedy advisors may drum up support for the start of several federal thermal generating plants, notably near lignite fields in the Dakotas and in coal fields of Oregon or Washington. Federal transmission line construction is still another probability.

• **Rural electrification loans are assured of being continued at 2% interest rates.** And Kennedy probably will push for more loans, more for generating and transmission facilities.

Kennedy won't ease up on the Eisenhower administration's tough policies on anti-trust enforcement. Look for vigorous moves against price discrimination, administered prices and identical bidding for government contracts. Rand Dixon, Chief Counsel for Sen. Kefauver's Anti-trust Subcommittee, is a possibility to replace Robert Bicks as head of the Justice Department's Anti-trust Division. With Dixon in that post, Kefauver would have new power as Chairman of the Senate Anti-trust Group.

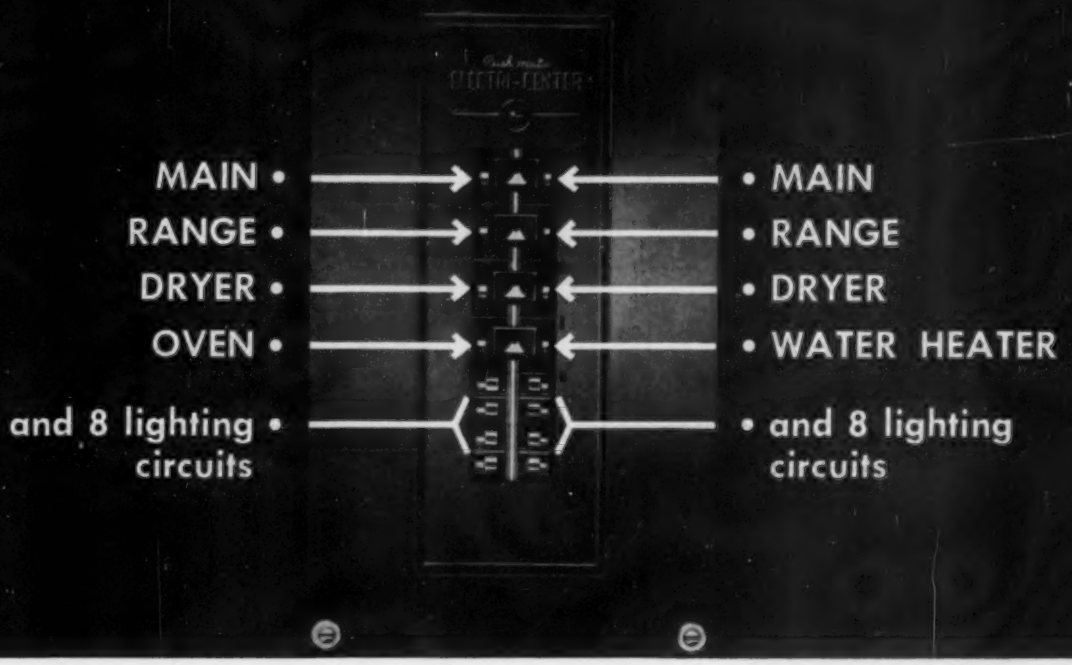
• **When it comes to getting legislation through,** however, most of Kennedy's more liberal changes will be made without a really clear mandate of the voters. If anything, the conservatives gained power in Congress; the Republican-southern Democrat coalition will be stronger than previously.

Most Congressional committee chairmanships will remain unchanged from the present, with one notable exception: Sen. Clinton Anderson (D-N. M.), chairman of the joint atomic energy committee will be succeeded automatically by a house member, Rep. Chet Holifield (D-Calif.), and Anderson is expected to be named chairman of the powerful Senate Interior Committee.

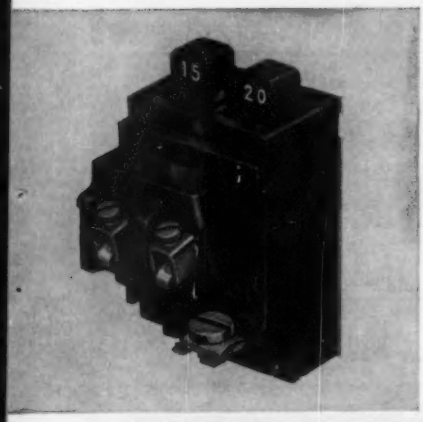
• Liberal Sen. Mike Mansfield (D-Mont.), is expected to be named as majority leader replacing more conservative Sen. Lyndon Johnson (D-Tex.), whose vice-presidential post as president of the Senate doesn't permit him to continue as Democratic leader.

Control of the house will remain firmly under speaker Sam Rayburn (D-Tex.) and house rules chairman Howard Smith (D-Va.). Republican leaders in the Senate (Everett Dirksen, Ill.) and house (Charles Halleck, Ind.) will remain as before.

GET THIS . . . . . OR THIS



ONLY IN BULLDOG'S 12-CIRCUIT ELECTRI-CENTER®

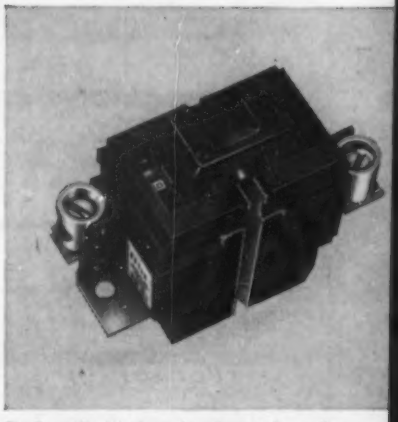


New Duplex Pushmatic puts two circuits in the space of one single breaker. Gives: identical, independent coil-magnetic protection in each pole of all Duplex breakers; positive one-bolt connection; pushbutton convenience.

Only BullDog Pushmatic circuit breakers give you both of the above combinations—plus many others—in a 12-circuit panel. Other breakers would need a 16-circuit panel.

The BullDog Pushmatic® 100-amp breaker takes only two spaces, compared to the four spaces needed for any competitive 100-amp breaker. And new BullDog Duplex Pushmatic puts two lighting circuits in a single space. Count 'em . . . all the circuits shown in only 12 spaces!

You save space by using smaller panels. You provide the maximum in electrical circuit flexibility and protection. Pushmatic protects two ways—coil short-circuit and thermal overload protection. To put more electrical services into less space, see your BullDog products representative.

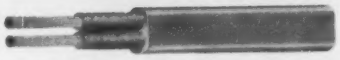
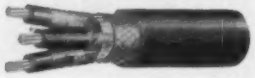
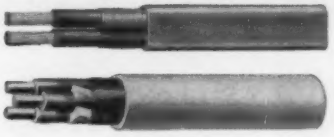
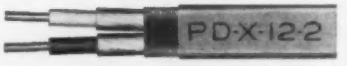


Pushmatic 100-amp breakers take only two spaces compared with four spaces required for all competitive 100-amp breakers. Pushmatic 100-amp breakers are now available for field installation.

BullDog Electric Products Division, I-T-E Circuit Breaker Company, Box 177, Detroit 32, Michigan.
In Canada: 80 Clayson Rd., Toronto, Ont. Export Division: 13 East 40th St., New York 16, N. Y.

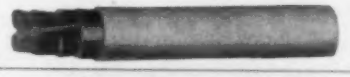
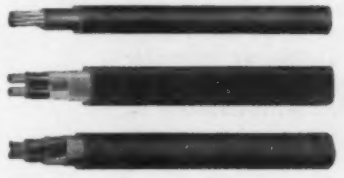
BULLDOG ELECTRIC PRODUCTS DIVISION
I-T-E CIRCUIT BREAKER COMPANY

Index of Phelps Dodge

Wires and Cables	Type Letter	Trade Name or Designation	Maximum Operating Temperature	USE
	ACV	Armo-Lok	85 C (185 F)	Dry Locations
	None	Armo-Lok	85 C (185 F) High Voltage	General Purpose: Consult manufacturer for specific applications
	W	Portable Power Cable	75 C (167 F)	Mining Machines, Dredges, Shovels, and similar portable applications Pennsylvania Dept. of Mines Flame Resistance Approval P-114. U. S. Bureau of Mines Listing P-114-BM.
	G		Low Voltage	
	SHD		85 C (185 F) High Voltage	
	RHW	Flamestop Heat and Moisture Resistant	75 C (167 F)	Dry and Wet Locations
	RHH	Flamestop Heat-Resistant	90 C (194 F)	Dry Locations
	RHL	Heat Resistant Rubber Lead	75 C (167 F)	Wet Locations and other Special Conditions
	NM	PD-X Nonmetallic-Sheathed Cable	60 C (140 F)	For Wiring Houses, Rural Buildings, Small Stores, and Shops.
	UF	Perma-Dure Nonmetallic-Sheathed Cable	60 C (140 F)	UF: Underground Feeder and Branch Circuit Cable for Direct Burial. NMC: For Interior Wiring in Moist or Corrosive Locations.
	UF-NMC			
	THW	Habirdure Thermoplastic insulated	75 C (167 F)	Dry and Wet Locations
	TW		60 C (140 F)	Dry and Wet Locations
	TF		60 C (140 F)	Fixture Wire
	None	Petro-Dure Thermoplastic Insulated Nylon Jacketed	60 C (140 F)	Moist locations and where exposed to mineral oil, liquid gasoline and gasoline vapor.
	None	Habirdure Machine Tool, Control, and Switchboard Wire	90C(194F) in air 80C(176F) in oil	Machine Tool, Control and Switchboard Wiring

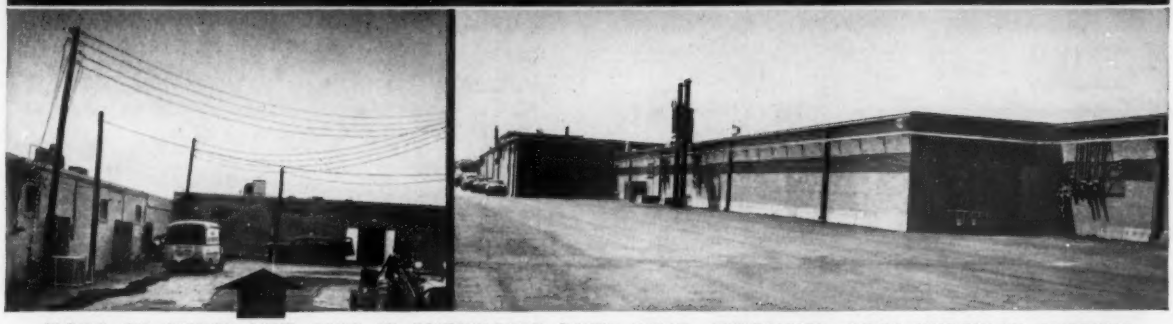
PHELPS DODGE COPPER PRODUCTS CORPORATION

Wires and Cables

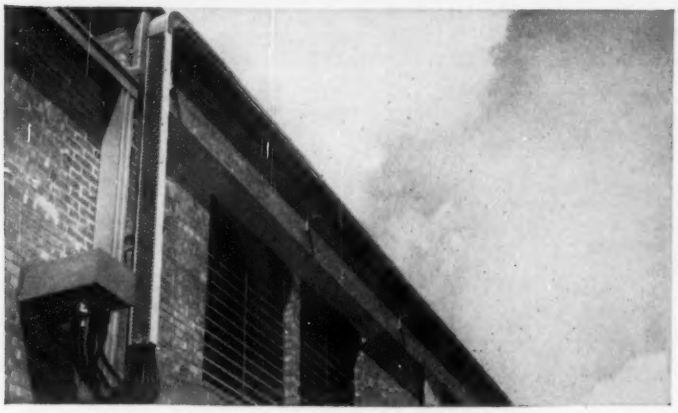
Wires and Cables	Type Letter	Trade Name or Designation	Maximum Operating Temperature	USE
	TW	Habirdure (9T)	60 C as TW 90 C as Appliance Wiring	NEC Type TW Bldg. Wire—60°C Appliance Wiring—90°C in air or 60°C in water or oil
	None	Habirdure Appliance Wire	105 C (221 F) IN AIR 80 C (176 F) IN OIL	Appliance Wiring
	SE	Service Entrance Type SE — Style U Unarmored	75 C (167 F)	Service Entrance or Combination Service Drop & Service Entrance
	SD	Service Drop Type SD	60 C (140 F)	Service Drop
	USE	Service Entrance Type USE	75 C (167 F)	Underground Service Entrance, Direct Burial.
	V	Varnished Cloth Braided	85 C (185 F)	Dry locations only. Smaller than No. 6 by special permission.
	VL	Varnished Cloth Lead	85 C (185 F)	Wet or Dry locations. Smaller than No. 6 by special permission.
	None	Habirduct Habirprene	75 C (167 F) Low Voltage	General Purpose for Direct Burial, Aerial, Conduit and Underground Duct Installations.
		Habirite Habirprene	85 C (185 F) High Voltage	
	S or SO	Hard Service Cord	60 C (140 F)	Pendant or portable extra hard usage in damp locations; SO for oil resistance
	SJ or SJO	Junior Hard Service Cord	60 C (140 F)	Pendant or portable hard usage in damp locations; SJO for oil resistance
	SP	All Rubber Parallel Cord	60 C (140 F)	For use in pendant or portable applications in damp locations not subject to hard usage

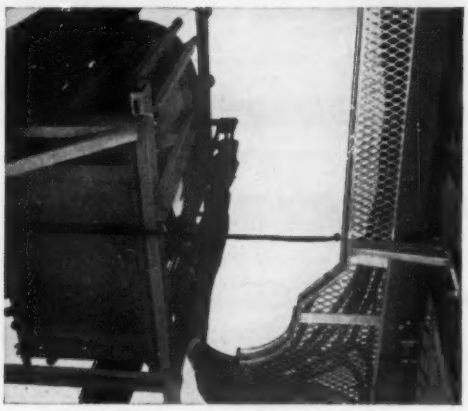
BUILDING WIRES AND CABLES

COPE–DISTRIBUTOR COOPERATION HELPS CLOSE THE SALE



MAZE OF WIRES LIKE THIS IS ELIMINATED WITH NEAT, SIMPLIFIED COPE WIREWAY SYSTEMS





SOUTHWEST SHOPPING CENTER—"The architect's problem was to eliminate utility poles and cables outside a beautiful, new shopping center," reports Henry Rowe, Sales Manager for Cummins Supply Company, authorized Cope electrical wholesalers in Fort Worth. "With the close cooperation and technical assistance of Bernhard Engineering Sales Company, Cope representatives in Dallas, we were able to prove the advantages of Cope Aluminum Wireway for this unusual application." The Wireway system, laid out in detail for installation by the local electric utility company, provides an attractive and completely weatherproof cable supporting system that eliminates the maze of wiring and low voltage connections usually associated with an installation of this size and type.

102SH

COPE PRODUCTS ARE SOLD ONLY THROUGH AUTHORIZED COPE ELECTRICAL WHOLESALERS

WIREWAY | LADDER | CHANNEL

The only completely integrated line of cable supporting systems for *every* installation requirement... sold *exclusively* through authorized distributors... backed by a company that really protects *and* promotes your selling effort. Cope distributors are sold on Cope—and they're *selling* Cope!

COPE

SERVING THE ELECTRICAL INDUSTRY SINCE 1885

Division of **ROME CABLE CORPORATION** • *COLLEGEVILLE, PENNSYLVANIA*

Malleable Iron Liquid-Tite Connectors

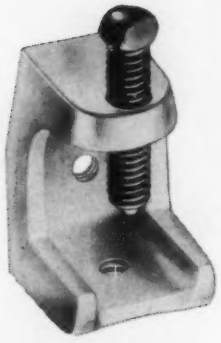
QUALITY MALLEABLE IRON FITTINGS ARE AVAILABLE!

GEDNEY'S

Complete Line is Precision-Made of Unbreakable Malleable Iron . . .

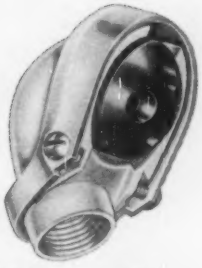
- *Unmatched for Toughness*
- *Impervious to Corrosion*

GEDNEY FITTINGS FIT



M.I. Beam Clamps

M.I. 90° Corner Adapters and Corner Elbows



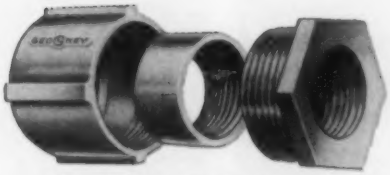
M.I. Entrance Caps

M.I. Offset Connectors and Offset Nipples

M.I. Insulated Bushings

M.I. Conduit Bodies

M.I. Armored Cable & Non Metallic Connectors



M.I. 3 Piece Conduit Couplings

Inside a limit switch. The men do more than just listen. They take an active part in the sessions.

Deep in thought. Frank Higbie (standing), Mgr. Distributor Sales, explains a point about Safetybreakers to Thomas Keating, Jr., (sitting left), City Electric Co., Binghampton, N.Y., and Dwight Hultman, Electric Fixture and Supply Co., Omaha, Nebraska.

Oily Lecture. Here, Bill Hampton, Division Sales Engineer, explains the function of a new Cutler-Hammer control developed for oil wells. The range of subjects covered is wide, to give the men a broad understanding of Cutler-Hammer operations.

What's new in better sales training?

Why 60 distributor salesmen pass up about a week's commission every year

They come to Milwaukee to the Cutler-Hammer Distributor Sales Forum...where they learn to make more money.

The sessions last three days. Three days of listening and learning and doing.

It isn't easy—a sales forum at the Cutler-Hammer home office. But, it's fun and rewarding, if you think making money is fun, that is. You know it's rewarding when your salesman knows more about motor control, for instance, than his competitors.

More than sixty distributors attended this year—owners, sales managers, salesmen.

They listened to about 19 talks by Cutler-Hammer people—experts in their fields.

They took apart magnetic starters. Found out what makes a limit switch click. Saw and studied the complete new line of Cutler-Hammer's Safetybreakers. In short, *they learned—learned to make more money* by knowing more about the products and applications of those products.

If you have never attended one of these seminars, we know you'd enjoy it Make a note now to check into the coming session scheduled for next March.

What's new in better service? Are you ready for the big growth of the sixties? We are—with new and better products to help make *your* selling easier—with new plants to make *your* deliveries faster. We've added new sales engineers to help you when you need help. Introduced new distribution policies to make service better in every respect. Like to know more about what's new at Cutler-Hammer? See your Cutler-Hammer representative soon.

WHAT'S NEW? ASK..

CUTLER-HAMMER

Cutler-Hammer Inc., Milwaukee, Wisconsin • Division. Airborne Instruments Laboratory • Subsidiary: Cutler-Hammer International C. A. • Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S. A.

NOW . . . *a simple, effective, low cost method of preventing electrical failure due to moist and corrosive atmospheres*

Failure of physical or electrical characteristics of electrical and electronic equipment is often due to moisture and corrosion. Without effective moisture protection, deterioration sets in, leading to costly downtime, expensive repairs and high replacement incidence.

Dual-action CRC 2-26 eliminates or greatly reduces these failures. It displaces moisture on surfaces—gets into grain boundaries, cracks and pores—and leaves a thin, continuous molecular film that both stops and prevents corrosive action on metals, plastics, rubber, plated and painted surfaces.

Dimensional characteristics, contact resistance and other electrical constants remain unchanged. CRC 2-26 does not become dry, brittle or hard. Because it is non-irritating, non-toxic and has a high flash point, CRC 2-26 is easily applied without special precautions. It is used to maintain equipment year after year that formerly burned out or needed extensive servicing every few months.

Write for complete information to Corrosion Reaction Consultants, 116-S Chestnut St., Philadelphia 6, Pa., or telephone WAlnut 5-0200.

A SUBSIDIARY OF THE CHAS. J. WEBB SONS CO., INC.

A profitable repeat item for Electrical Wholesalers

CRC® FORMULA 2·26

FOR THE ELECTRICAL INDUSTRY

TYPICAL EQUIPMENT MAINTAINED BY CRC 2-26

Switchgear	Motors	Blowers	Rheostats
Circuit breakers	Generators	Signals	Sub-assemblies
Contactors	Cables	Controls	Synchronizers
Fuses	Insulation	Recorders	Transmitters
Relays	Coils	Shielding	Receivers
Solenoids	Timers	Counters	Ignition systems
Rectifiers	Conduits	Housings	Microphones
Transformers	Fixtures	Chassis	Tubes
Instruments	Panelboards	Oscillators	Welders

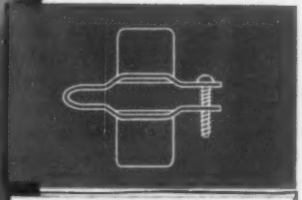
Supplied in 16 oz. aerosol cans, 1 and 5 gal. cans, 55 gal. drums

CRC® 2·26 LOW COST PROGRAMS FOR PREVENTIVE MAINTENANCE

ANOTHER CAROL FIRST!

RANGE and DRYER CORDS

Featuring "Flush-Fit" Molded-on Plug



NEW COMPACT DESIGN! Special Carol molded-on plug only one-half the size and weight of ordinary types . . . fits flush against receptacle.

NEW FLAT CORD! Parallel conductors . . . more flexible, easier to install than ordinary cords. Attractive, modern gray color.

NEW ADJUSTABLE STRAIN RELIEF! Fastens cable securely to outlet box. 2-way locking design.

NEW EXCLUSIVE PACKAGING! "See-Thru" vinyl bags replace ordinary sleeve-packaging . . . cleaner, easier to stock . . . make eye-catching merchandising display.

Cords also available in sturdy, reshipper cartons. All specifications—part number, gauges, ratings, length—on both types of package. Gauges also stamped on terminals for clear identification after unpacking.

Available in full range of sizes and ratings. Order now...and *SEE* the difference in sales!

When you call for cable, call for.....

Carol®

CAROL CABLE COMPANY

Division of [illegible] Company, Inc., Pawtucket, Rhode Island

T&B ENGINEERED

CONNECTOR SYSTEMS FOR FLAT CONDUCTOR CABLE

POS-E-FLEX™ SYSTEM

Inter-Connect . . . Tap . . . Terminate flat multi-conductor cable in new or *old* equipment, with the T&B-Engineered Pos-E-Flex System. Designed for low-voltage, low-power commercial and house-wiring applications. One connector takes any conductor spacing in a given cable width —conductors *always* align perfectly. A complete line.

Easy to install or disconnect

No special tooling needed. Adapters available for connecting flat conductor cable to conventional wiring or plugging into new equipment. Provides direct cable-to-cable contact.

POS-E-KON™ SYSTEM

patents pending

For military and other precision applications, basic connector is custom-adapted for any installation. Interconnect or terminate flat multi-conductor cable or flexible printed circuitry with this completely dependable, easily installed fitting. Designed to your requirements, the Pos-E-Kon Line is as versatile and extensive as your needs. Many standard items to choose from.

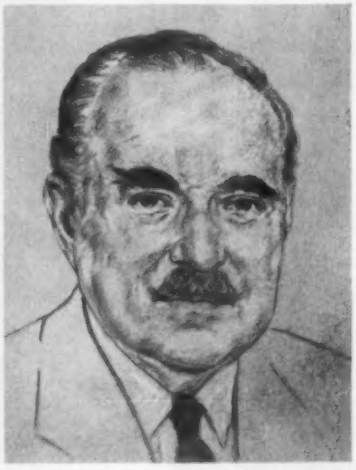
WRITE FOR COMPLETE INFORMATION TO T&B's POS-E-KON DIVISION.

THE THOMAS & BETTS CO.
INCORPORATED

ELIZABETH, NEW JERSEY — IN CANADA, THOMAS & BETTS, LTD. MONTREAL

SOLD COAST TO COAST EXCLUSIVELY BY YOUR LOCAL T&B DISTRIBUTOR

T&B DISTRIBUTORS GEARED FOR ELECTRONIC SELLING



N. J. MacDonald

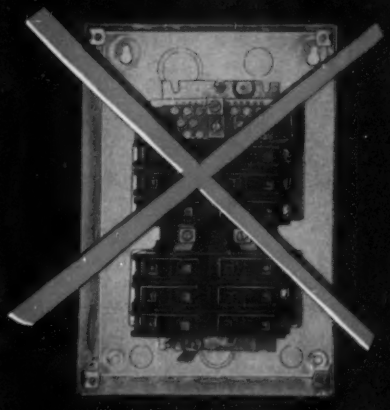
As specialists in the design and manufacture of electrical fittings, we recognize the Distributor as specialist in his field — namely, Sales . . . Service . . . and Local Inventory. 65 years of experience has convinced us that wholesaler distribution reduces the selling price of electrical supply material to the user. Therefore, our policy of exclusive distribution through the electrical wholesaler is essential to our planning for present and future expansion.

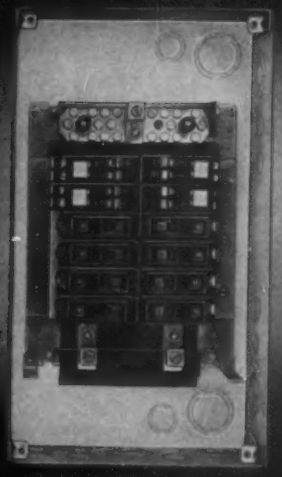
Without any reduction in emphasis on our familiar, well-established shelf goods, we are moving — with additional new lines of products — into such fields as Original Equipment and Electronics; markets which have tremendous potential. In these new markets we will, as always, rely upon the Distributor as our selling force to the end user; and we, in turn, will continue to offer our wholehearted cooperation through the T&B Plan.

N. J. MacDonald
President
THE THOMAS & BETTS CO.
INCORPORATED

NEW! FRANK ADAM LOAD CENTERS

More Features - More Versatile!





NEW QUICKLAG MAGNETIC COIL BREAKER GIVES TWICE NORMAL SAFETY

- New coil magnet plus thermal action on 15-amp. and 20-amp. breakers has faster trip—quick enough to protect against lamp cord overload. (Coil not required on higher-rated breakers).
- Elimination of screws on calibration prevents tampering.
- New "floating armature" relieves all pressure on bi-metal element.
- Class NI Non-interchangeable per NEC.

CAPACITIES: 15, 20, 30, 40, 50 and 70 amps.

KEEP PACE WITH ELECTRICITY

See our Catalog in SWEETS

THE PRODUCERS' COUNCIL

WHOLESALERS!

This ad appears in current leading electrical trade publications. If you have not yet ordered your stock of new load centers and magnetic coil breakers, do so now. Write for catalog information and prices.

- **NOW**—*all* Frank Adam Load Centers have sequence bussing with main lugs at bottom which makes possible *any* combination of 2-pole circuits.
- **NOW**—all lugs are dual rated to allow the use of copper or aluminum wire in centers 100-amps. and higher.
- **NOW**—the number of branches can be greatly increased simply by the use of Frank Adam **Duplex** breakers. **Duplex** and single breakers are entirely interchangeable.
- **NOW**—both QP and **Duplex** breakers are Class NI Non-interchangeable per NEC.
- **NOW**—all these improvements are in addition to the many other features that have already made Frank Adam Load Centers tops among quality equipment. *Write for catalog.*

FRANK ADAM ELECTRIC COMPANY

SINCE 1891

P.O. BOX 357, MAIN P.O. • ST. LOUIS 66, MO.

busduct • panelboards • switchboards • service equipment • safety switches • load centers • Quikheter

EASIER TO DO... and costs less too!

B-M

INDENTER FITTINGS and TOOLS

Here is the combination that is unbeatable when it comes to easier E.M.T. installation at less cost. New lightweight plier size indenters make setting up thin wall conduit a breeze. B-M fittings are neater too! No unsightly nuts or projecting set screws.

A few more of the plus features of B-M fittings are Concrete tight — Vibration resistant — Extra heavy bright zinc plate, salt spray and acid drip tested for corrosion resistance — Extra heavy positive bonding locknuts — Smooth rounded edges or bushed throat type connectors that prevent insulation damage — All steel construction with extra heavy gauge wall thickness.

Red Throat
BM-21B
½" Connector

Red Throat
BM-22B
¾" Connector

Red Throat
BM-23B
1" Connector

BM-41
½" Coupling

BM-42
¾" Coupling

BM-43
1" Coupling

BM-51
½" Offset Connector

BM-21
½" Connector

BM-22
¾" Connector

BM-23
1" Connector

BM-No. 600
Changeable Jaw Indenter

BM-No. 1000
Handvise for ½", ¾" and 1" E. M. T.

BM-No. 100
Cutter for ½", ¾" and 1" E. M. T.

BM-No. 607
½" Indenter
BM-No. 608
¾" Indenter

UL

TELESCOPE BM SYSTEM

All B-M indenter type fittings far exceed the requirements of U. L. file card E 10863 and Federal Specifications W-F-406.

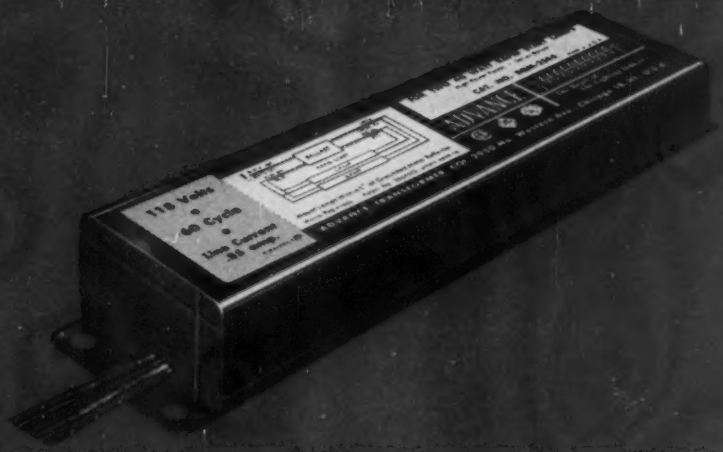
BRIEGEL METHOD TOOL CO.
GALVA • ILLINOIS

ANOTHER ADVANCE FIRST!

"A"

SOUND RATED

NEW TWO-LAMP 40-WATT RAPID START FLUORESCENT LAMP BALLAST



SILENCE IS THE SOUND OF QUALITY

Again ADVANCE TRANSFORMER CO. brings the lighting industry another outstanding development in ballast design . . . an **"A"** sound-rated Two-lamp 40-watt Rapid Start Ballast. ADVANCE engineers developed this acoustically corrected ballast that absorbs the magnetic vibration of core and coil before it becomes sound.

By controlling vibration, the noise level of the new ADVANCE sound-conditioned ballast is lower than any Two-lamp 40-watt Rapid Start Ballast available today.

For silent fluorescent lighting in schools, libraries, hospitals and other critical areas where low noise levels are the primary consideration . . . demand ADVANCE **"A"** quiet-rated fluorescent lamp ballasts.

"The Heart of the Lighting Industry"

Mfg. in Canada by: Advance Transformer Co., Ltd. 5780 Pare St., Montreal, Quebec.

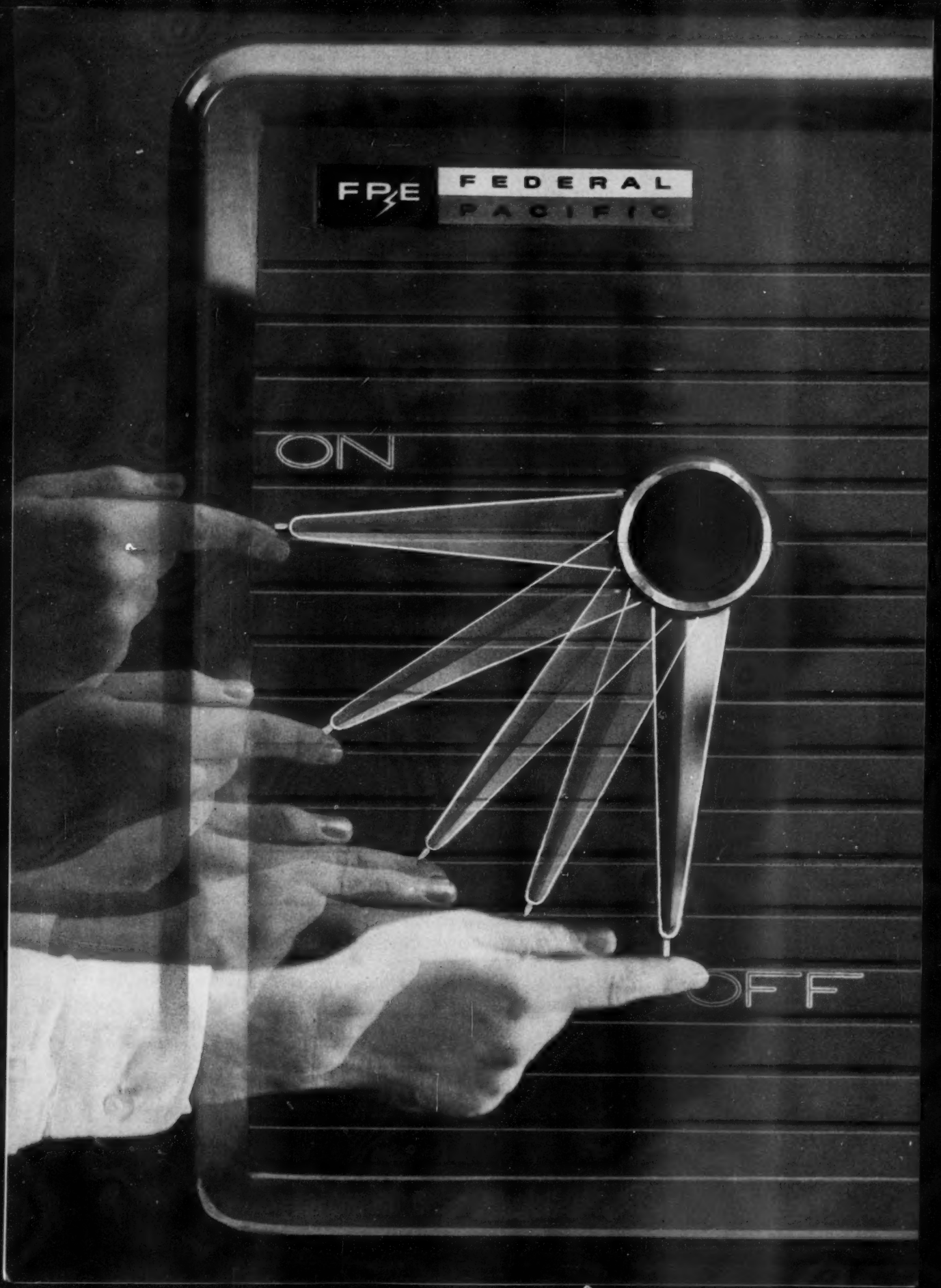
ADVANCE®

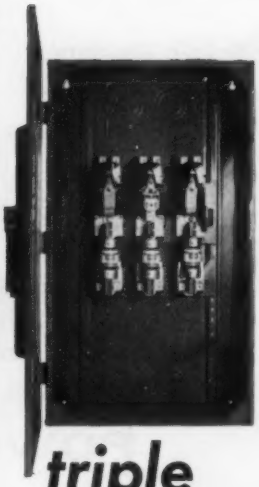
CBM CERTIFIED

World's Largest Exclusive Manufacturer of Fluorescent Lamp Ballasts

TRANSFORMER CO.

2950 NO. WESTERN AVE. CHICAGO 18, ILL. U.S.A.


FPE
FEDERAL
PACIFIC
ON
OFF



triple safety at your fingertips!

Only the Federal Pacific type A-plus switch gives you triple protection: the complete safety of visible blades, plus the high current capacity of a circuit breaker, plus the high interrupting capacity of fuses. And at the touch of the big Rotary Handle, fingertip operation opens and closes the A-plus switch instantly—with a quick-make, quick-break mechanism that is fast . . . teaseproof . . . safe. What's more, the A-plus switch is rated for load break, not just disconnecting duty! Feature for feature, there is no switch that compares with the A-plus safety switch. Federal Pacific heavy duty industrial switches are available in ratings 30 through 1200 amperes, 250 and 600 volts, indoor and weatherproof enclosures. Write for Bulletin 1241, Dept. FP-5, Federal Pacific Electric Company, Newark 1, N. J.

FEDERAL PACIFIC ELECTRIC COMPANY

FPE

growth through creative energy

From nuclear power to electric energy...

POWERIGHT PARANITE®

POWER CABLE

The new **Enrico Fermi Atomic Power Plant** near Monroe, Michigan, will be operated by Power Reactor Development Company and The Detroit Edison Company for the expressed purpose of demonstrating the practicability of the use of nuclear energy for the generation of electric power. Criticality is scheduled for December 1960.

Paranite Wire and Cable was selected to supply 600 Volt network and 5000 Volt shielded cables for the nuclear section of this major new development. To us it's evidence once again of the nationwide acceptance of Paranite's 70-year record of dependability.

From 600 volt network through 28,000 volt power cable, Paranite's complete line is ready to serve you. If yours is a special application problem the Paranite engineering department invites your inquiry.

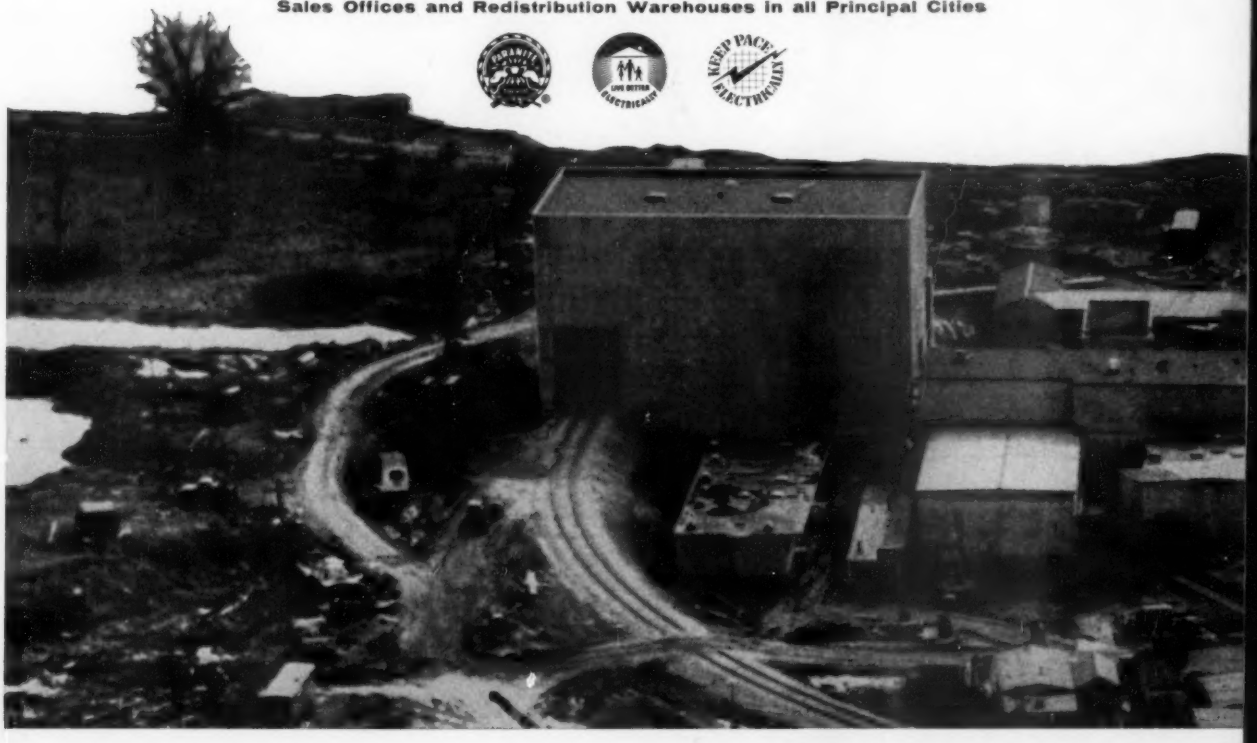
Since 1890

PARANITE WIRE & CABLE DIVISION

ESSEX WIRE CORPORATION, Marion, Indiana

MANUFACTURING PLANTS: Marion, Ind.; Jonesboro, Ind.; Tiffin, Ohio; Anaheim, Calif.

Sales Offices and Redistribution Warehouses in all Principal Cities



A. Paranite HIGH VOLTAGE CABLES are manufactured in a complete range of sizes—1000 through 28,000 volt single conductor, 3000 and 5000 volt three conductor. Adaptable for aerial, direct burial or underground duct installation, wet or dry location.

B. Paranite manufactures a complete line of 600 volt NETWORK CABLES in gauge sizes through 2,000 MCM. Insulations available include 60°C, 75°C and 90°C types for use in either wet or dry locations.

Paranite also makes a complete line of quality building wires.

EVERY 3-YEAR-OLD KNOWS...

what some transformer manufacturers have forgotten

Before he could talk, Junior learned that *resiliency absorbs shock*—that a marble dropped on the floor makes more noise than one dropped on a pillow. Elementary? You'd be surprised how many transformer manufacturers forget this simple fact when they design a cabinet model. Or maybe you wouldn't be surprised—maybe you've heard some of them roaring away.

On every JEFFERSON dry type cabinet transformer the core and coil are *completely isolated* from the cabinet—floating on a resilient cushion of rubber—minimizing vibration and sound. JEFFERSON gives you the quiet operation that is always desirable, and necessary in hospitals, libraries, offices and schools.

They're designed to last longer, too. JEFFERSON engineers have provided plenty of wiring space by mounting core and coil *above* the base so that wiring is never exposed to higher than ambient temperatures. JEFFERSON insistence on quality is reflected by the fact that every cabinet must have three coats of paint—every bolt must be plated—a reassuring fact when your transformer must perform under humid conditions.

These are just a few examples of the expert engineering that has made JEFFERSON transformers the preferred line.

Cabinet Models available in:

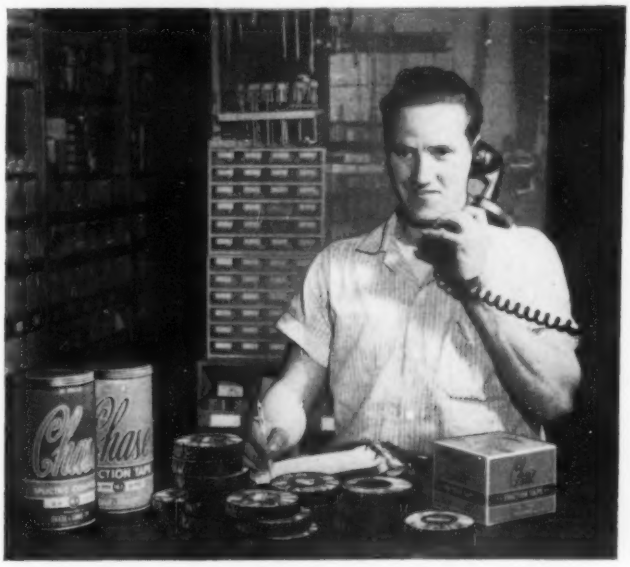
Single Phase—25KVA through 100KVA

Three Phase—112.5KVA through 300KVA

Jefferson *DRY TYPE* TRANSFORMERS

Jefferson Electric Company • Bellwood, Illinois

CHASE TAPES



Call the friendly Counterman at your nearby Electrical Distributor for prompt, dependable service on every Chase Tape order!

answer every roll call!

Chase Friction Tape ..... here!
Chase Rubber Insulating Tape ..... here!
Chase Plastic Electrical Tape ..... here!
Chase Neoprene Splicing Tape ..... here!
Chase Ozone-Resistant Splicing Tape ..... here!
Chase Semi-Conducting Splicing Tape ..... here!

ORDER FROM

David Role Co.
14 Dietz Road
Hyde Park, Mass.

Berry-Rochi, Inc.
29-28 41st Avenue
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Thomas P. Harris, Jr.
6037 Bonneau Road
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John S. McWhorter, Inc.
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Jack L. Grady Co.
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Precision Insulation Co., Inc.
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Precision Insulation Co., Inc.
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Joseph F. Taraba Co.
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Magna Products, Inc.
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Joseph F. Taraba Co.
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CHASE & SONS INC.

26 SPRUCE STREET, NORTH QUINCY, MASS.

For Corrosion Control of buried pipe, conduit, or cable, specify Chase CORR-PREV Protective Tape Coatings, CORR-PREV Division

New! A completely versatile line of Cutler-Hammer oiltight pushbuttons

Your customers get greater circuit flexibility than with any other brand . . . can make any kind of pushbutton station they want

To meet today's need for a broad range of versatile oiltight pushbuttons, Cutler-Hammer has introduced a new, more flexible line.

They're available in one hole or base mounting, six bright colors. More than thirty different circuit arrangements, plus hundreds of varieties of stations in standard arrangements of up to 25 elements.

And your customers can get up to 8 circuits on one pushbutton.

The flexible oil resistant diaphragm behind the button is designed to stay soft and pliable permanently.

Cutler-Hammer pushbuttons take 40% less behind the panel space than the next smallest unit, too . . . means even more control in less space.

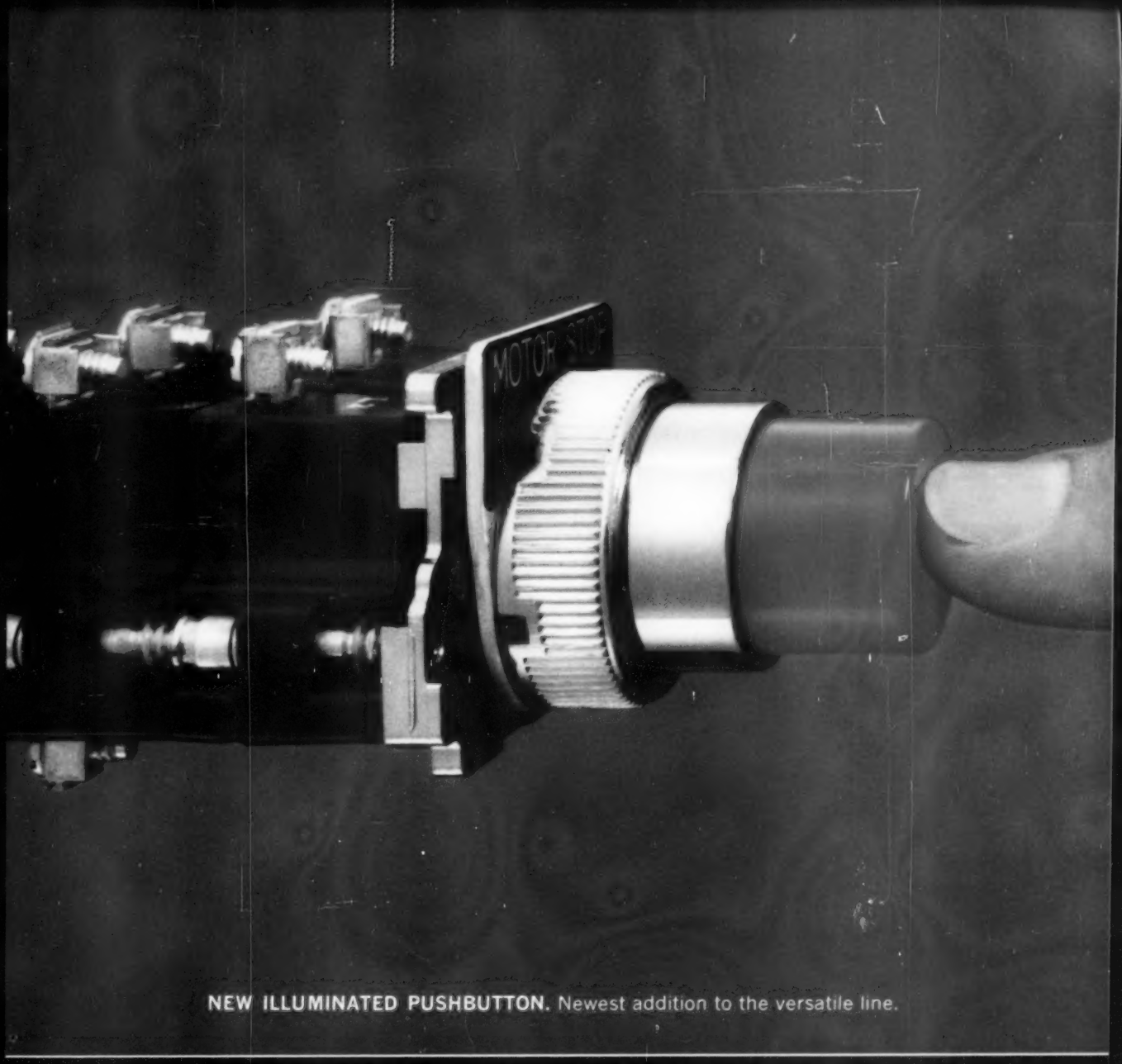
Get all the facts in Pub. LO-104.

What's new at Cutler-Hammer? Have you checked lately into the new Cutler-Hammer? New, better products to give you the competitive edge. New sales engineers to give you more sales help. New stock modification program cuts time needed for special modifications on most items, from weeks to days. New warehouse replenishment program keeps stock right up to date . . . means better service all around. Better check further into how valuable Cutler-Hammer can become to you in the years ahead.

WHAT'S NEW? ASK...

CUTLER-HAMMER

Cutler-Hammer Inc., Milwaukee, Wisconsin • Division: Airborne Instruments Laboratory • Subsidiary: Cutler-Hammer International, C. A. • Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S. A.



NEW ILLUMINATED PUSHBUTTON. Newest addition to the versatile line.

YOU CAN GET ALL THESE TYPES OF CONTROL UNITS

LEVER

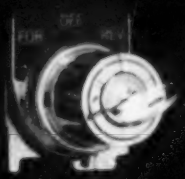
MUSHROOM

LONG

ROTO-PUSH

STANDARD

RESISTOR LIGHT

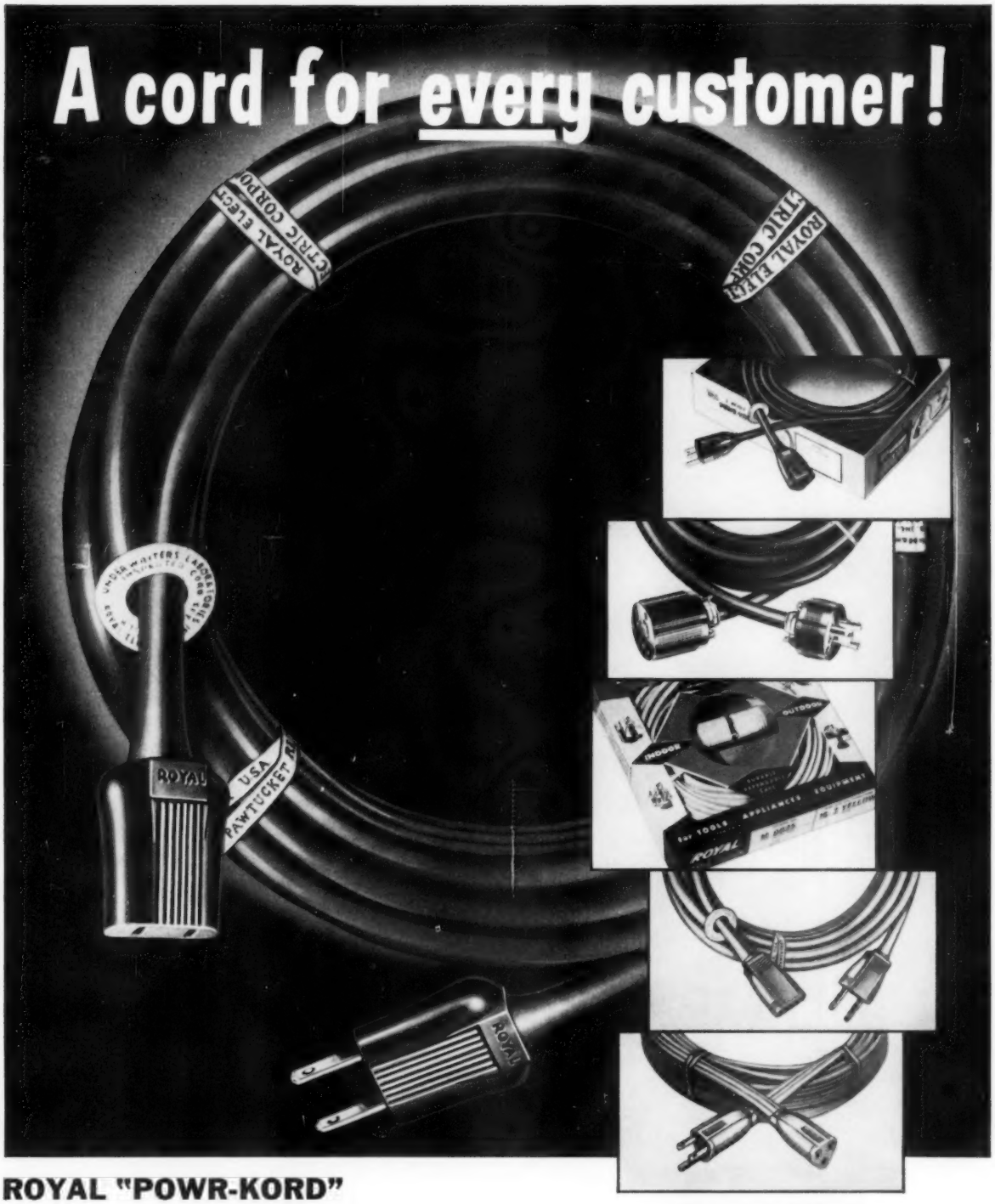

KEY

TRANSFORMER LIGHT

GUARDED

PRESTEST LIGHT

A cord for every customer!



ROYAL "POWR-KORD"

Heavy Duty Extensions are a cinch to sell. They're available in one quality (the very best) . . . two types (rubber and vinyl) . . . three colors (black, red, yellow) . . . four wire sizes (12, 14, 16, 18) . . . and over five handy cord lengths (10 to 100 ft.). Satisfy *every* customer with the complete line of Royal "POWR-KORDS." Want complete facts? See your Royal representative.

ROYAL ELECTRIC ...an associate of LTL

ROYAL ELECTRIC CORPORATION
PAWTUCKET, RHODE ISLAND

In Canada:
Royal Electric Company (Quebec) Ltd., Pointe Claire, Quebec

first choice of industry. . .

FOSTORIA

LOCALITES

America's biggest and fastest growing localized lighting line

Your customers don't want just *any* lights. Most of them want Localites—preferred choice of industry for lighting machine tools, benches and assembly lines for over 25 years.

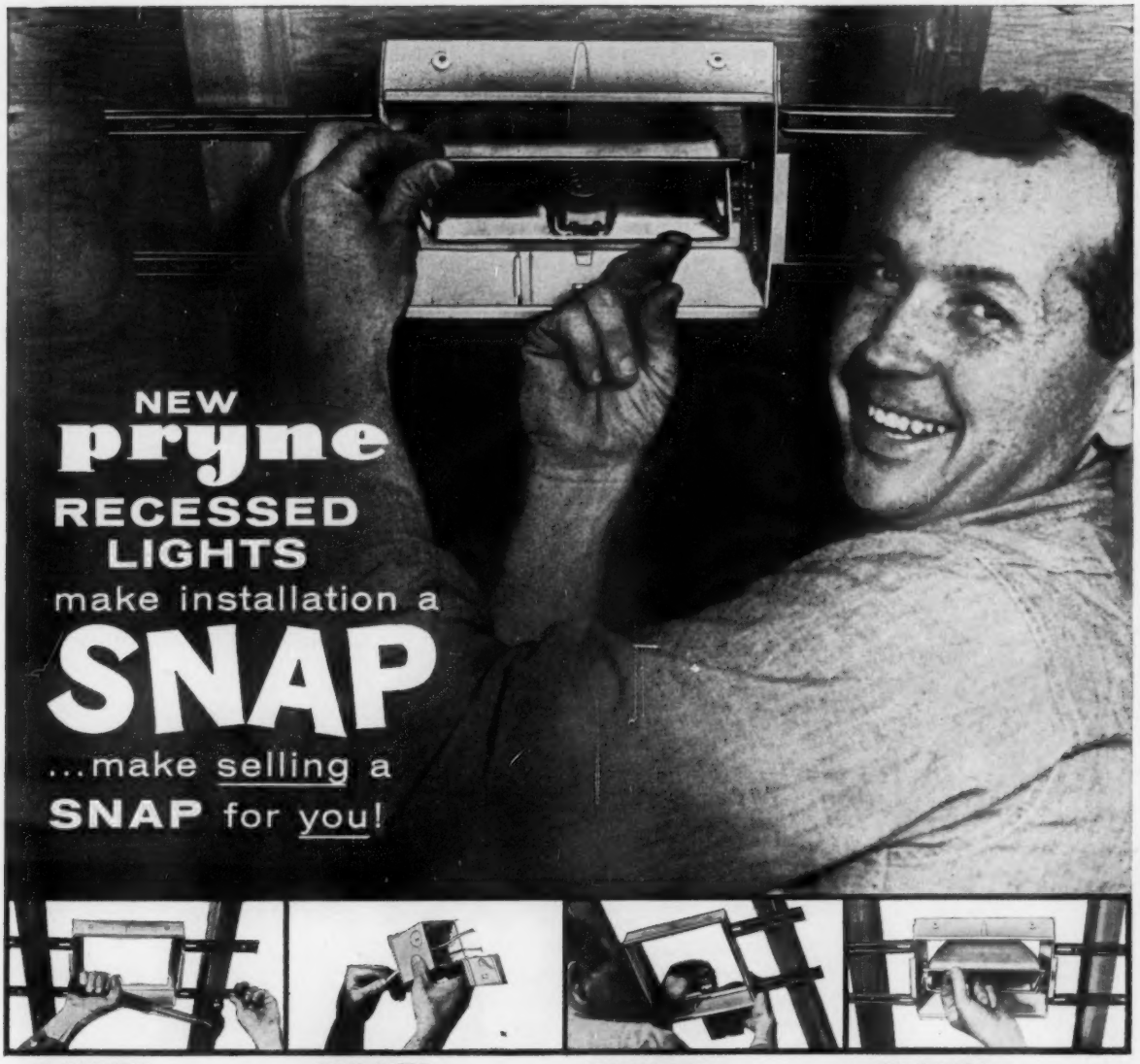
Each Localite is designed to meet the needs of the specific application . . . in styles and sizes best suited for machine shops, assembly operations, offices, laboratories, schools, hospitals, hobby and home use.

No other lights match Localite quality. They're sturdy yet flexible . . . can be positioned where desired in seconds . . . stay put even under severe vibration. Easy to mount . . . cool to the touch . . . most models U/L approved.

Localites are competitively priced to sell every market . . . cost no more than many ordinary lights. Make *your* choice industry's choice . . . Localite.

Write for Catalog L-9, Fostoria Corporation, Fostoria, Ohio.

FOSTORIA

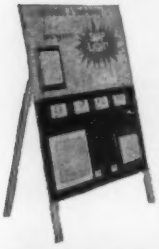


SNAP! *Snap* bar straps into frame, then nail redi-set tabs to joists. Unit can be *snapped* directly onto plasterboard for mounting in ceiling hole.

SNAP! *Un-snap* junction box for wiring—plenty of ½" and ¾" knockouts make all wiring applications easy. *Snap* junction box shut. Wired out in the open where you can get to it.

SNAP! *Snap* junction box and socket onto fixture frame . . . no tools needed.

SNAP! The aluminum reflector is *snapped* into position . . . ready for use. Cardboard masking cover prevents damage to interior of fixture during plastering and painting. Then anodized aluminum frame (guaranteed not to rust) and glass *snap* into place.



NEW Snap FIXTURE DISPLAY

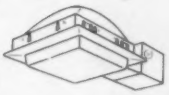
The Snap Fixture has been a big seller . . . and this attractive new display will help identify you with Emerson Electric's continuing promotion to your contractor-builder customers. This eye-catching display of sturdy steel construction takes little space in your showroom . . . *SELLS SNAP FIXTURES!* Get yours right away! Contact your Emerson Electric Builder Products representative *today!*

THREE MODELS

MODEL 1082
SQUARE 100W
9" x 9" HOUSING

MODEL 1083
RECTANGULAR 100 W
7" x 10" HOUSING

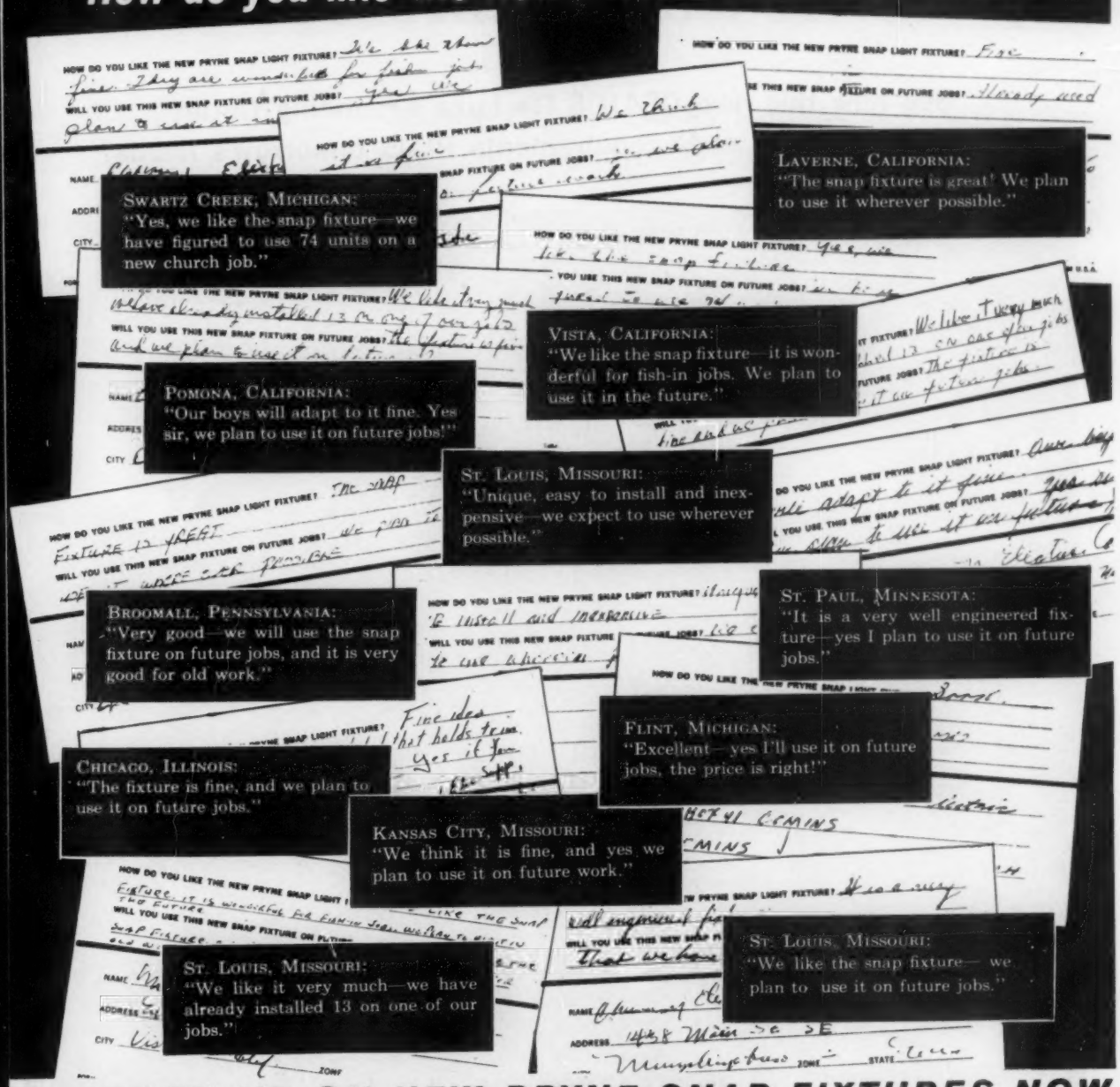
MODEL 1084
SQUARE 150W
11" x 11" HOUSING



LOOK WHAT YOUR CUSTOMERS ARE SAYING ABOUT THE "SNAP LIGHT"!

We asked YOUR contractor customers..

"How do you like the new PRYNE **SNAP** *Fixture?"*



SWARTZ CREEK, MICHIGAN:
"Yes, we like the snap fixture—we have figured to use 74 units on a new church job."

LAVERNE, CALIFORNIA:
"The snap fixture is great! We plan to use it wherever possible."

VISTA, CALIFORNIA:
"We like the snap fixture—it is wonderful for fish-in jobs. We plan to use it in the future."

POMONA, CALIFORNIA:
"Our boys will adapt to it fine. Yes sir, we plan to use it on future jobs!"

ST. LOUIS, MISSOURI:
"Unique, easy to install and inexpensive—we expect to use wherever possible."

BROOMALL, PENNSYLVANIA:
"Very good—we will use the snap fixture on future jobs, and it is very good for old work."

ST. PAUL, MINNESOTA:
"It is a very well engineered fixture—yes I plan to use it on future jobs."

FLINT, MICHIGAN:
"Excellent—yes I'll use it on future jobs, the price is right!"

CHICAGO, ILLINOIS:
"The fixture is fine, and we plan to use it on future jobs."

KANSAS CITY, MISSOURI:
"We think it is fine, and yes we plan to use it on future work."

ST. LOUIS, MISSOURI:
"We like it very much—we have already installed 13 on one of our jobs."

ST. LOUIS, MISSOURI:
"We like the snap fixture— we plan to use it on future jobs."

STOCK UP ON NEW PRYNE SNAP FIXTURES NOW

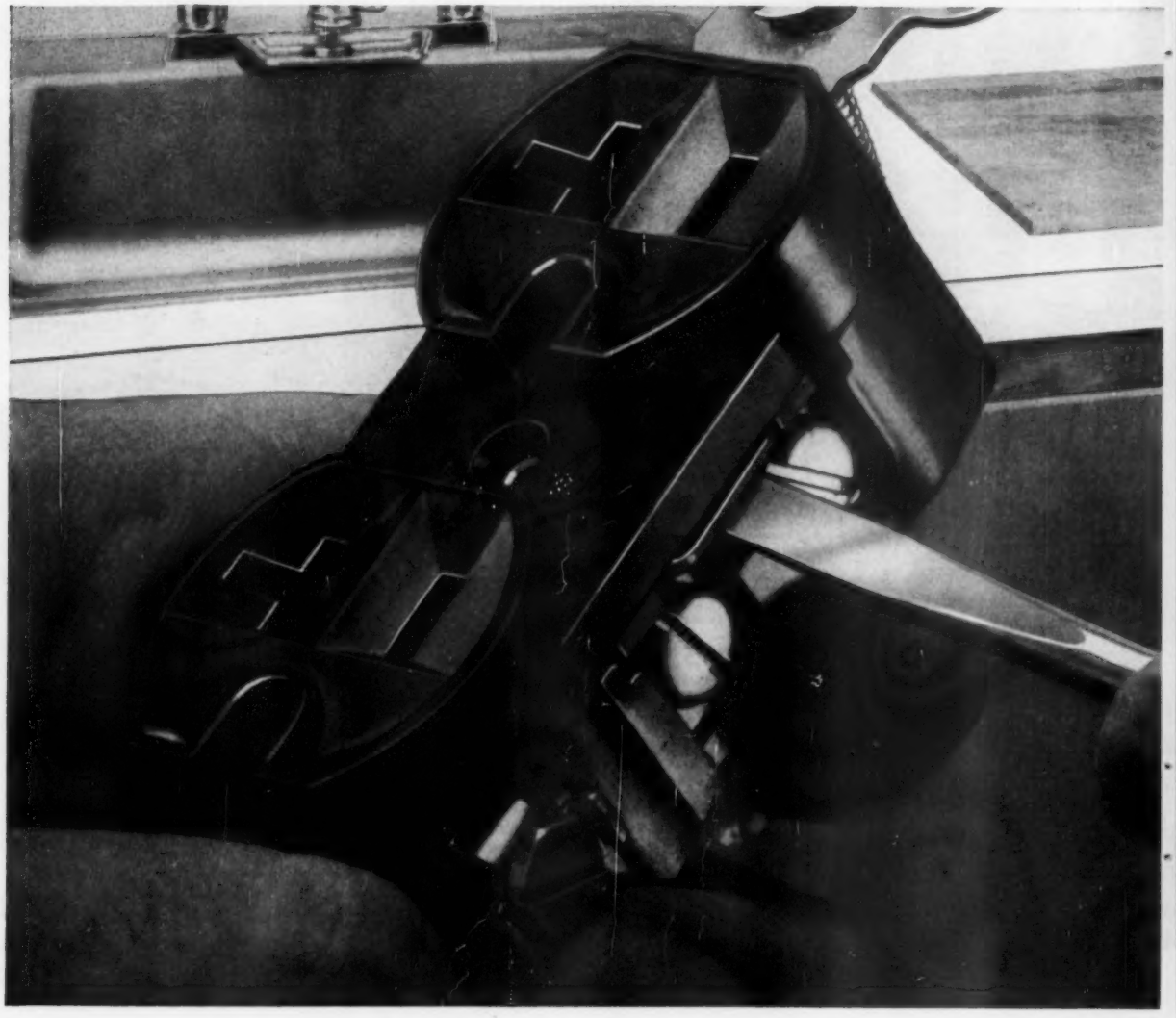
EMERSON ELECTRIC
BUILDER PRODUCTS GROUP

EMERSON ST. LOUIS, MO. PRYNE POMONA, CAL. KEYSER, W. VA.
IMPERIAL LATROBE, PENN. RITTENHOUSE HONEOYE FALLS, N.Y.

Write Dept. B740, Emerson Electric . 8100 Florissant . St. Louis 36, Mo.

New General Electric outlet protects contractors' customers

See how this new GE4108 De Luxe Grounding Outlet meets today's new code requirements PLUS tomorrow's needs!



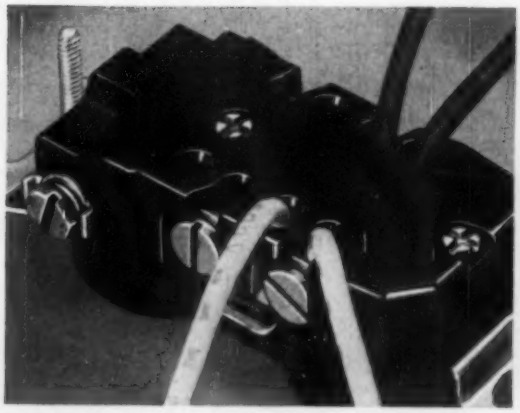
1 **MEETS NEW CODES FOR KITCHENS,** laundries, dining rooms, offices and other areas where high-wattage 120-volt appliances may be used. You get two 20-A branch circuits from a 3-wire, 120/240V service—or from two separate 20A, 120V circuits. Just remove one or both of the breakoff links on its sides.

2 **PLUS—FULL 20A RATING** in the outlet itself—not yet required by codes. General Electric provides it so full use can be made of 20A circuits.

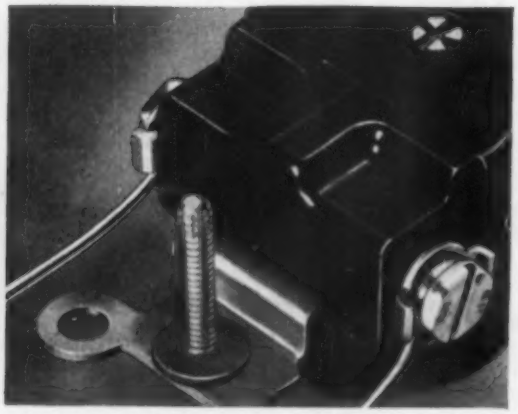
3 **PLUS—GROUNDING** for appliances, more and more of which will require it. Takes 20A and 15A grounding caps; polarized-parallel and parallel-pronged caps.

with "look-ahead features" from electrical obsolescence

General Electric quality features provide a topnotch installation



EIGHT HOLES FOR BACK-WIRING take all the Nos. 14, 12 or 10 Awg wires you need, "in" and "out" for through wiring—in tight, pressure-clamp connections. You can "loop" wires under screws on the sides.



TWO GREEN GROUNDING SCREWS make it more convenient for you to carry through grounding wires —take straight ends or loops. When all terminals are used, this outlet will take 10 wires!

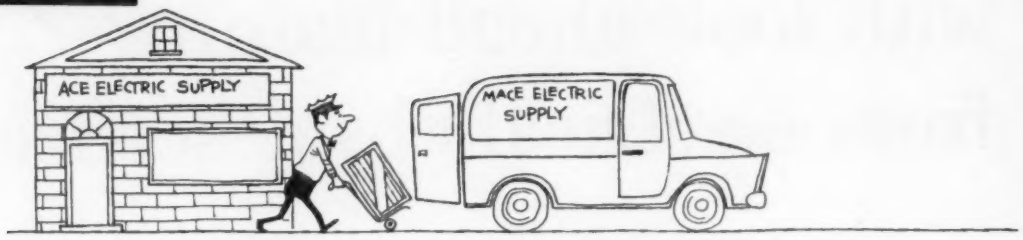
STURDY CONSTRUCTION, with double-wipe contacts; "through" strap; captive mounting screws. No. GE4108; brown or ivory; 20A, 125V, U.L.—listed, meets Federal and REA specifications.

Plan now to show this years-ahead GE4108 Grounding Outlet wherever high-wattage outlets are indicated. It makes good sense. It gives you a wiring device you can point to with pride, to show your customers you have their best interests at heart.

Ask your General Electric representative to show you the sales-building features of the whole line of high-quality G-E devices — engineered to meet today's codes *plus* tomorrow's needs! General Electric Company, Wiring Device Department, Providence 7, Rhode Island.

Progress Is Our Most Important Product

GENERAL ELECTRIC



Why Do Distributors

Here's how distributors handling three leading brands with selective distribution answered EW's questions on courtesy interchange sales. Analyses are based on replies from distributors handling . . .

1. A Leading Motor Control Line

ALMOST one-half of 25 replying distributors featuring the motor control brand claimed they sold this selective line and others to all other competing distributors upon request.

Approximately one-third of the distributors answering the survey on courtesy interchange sales said they sold this selective line and others only to distributors whose inventories and brands offered them a valuable reciprocal advantage. An estimated 16% of the wholesalers queried said they sold only to a restricted list of competitors who, in the main, distributed the same lines they did.

In the minority were those distributors who claimed: (1) "We will not sell selective brands to competitors"; (2) "We sell a selective line only to other authorized distributors of the same motor control line"; (3) "We are gradually working it so we can discontinue the practice of giving direct to competitors."

• **Pricing Policy**—Over one-half the distributors replying (61%) to the survey claimed that on courtesy interchange sales to other distributors their policy was contractor price less 5%; contractor price less 10% (two wholesalers claim this); and one distributor favored contractor price "plus one-half the published margin."

An estimated 17% of the distributors replying to this question claimed that their pricing policy was on the basis of distributor cost plus 10%. One distributor in this category said, "cost plus, but no delivery." Another wholesaler in the same category remarked, "distributor-cost plus 10%, but also on a reciprocal basis."

Thirteen per cent of the wholesalers said that they based their pricing on contractor prices. Other policies were:

• "Varies according to the lines and arrangements we have with certain distributors on lines we do not handle and that they make available to us."

• "Next best column price or standard package less 5% when bought in special quantities."

• **Petty or Profitable?**—Thirteen out of 25 electrical wholesalers said that they thought it was a profitable business to handle orders from competitors for brands which they had on a selective distribution basis. Twelve distributors thought it would be "penny-wise, pound-foolish" to make it possible for their competitors to handle selective brand material on which they had fac-

"THERE are electrical distributors with premium lines who have fought and struggled through the years to establish those lines in their areas, but now they are making these top lines available to the little neighborhood chiseler who enters the field and the competitive market from time to time."

This is the pungent way a long-established distributor describes the generally free exchange of product lines among distributors, a practice that he feels can "ultimately lead the manufacturer into selling direct." What's the cause? Customer demand for one-stop service.

This distributor also asks: "why shouldn't the established distributor restrict the sales of his premium lines to other distributors of equal standing? Is there a law against it?

"Should a distributor who through the years has built his business on premium lines allow himself to be pushed around by smaller newcomers? In many instances, these newcomers cannot qualify for the premium lines under the manufacturer's own standards. Yet they have access to these lines and are aided and abetted by the manufacturer in many cases, while the premium line distributor cuts his own throat for short-range expediency."

• **Clearing the Air**—In an attempt to clear the crackling pro and con atmosphere of courtesy interchange sales, ELECTRICAL WHOLESALING, armed with a dozen questions composed by an electrical distributor, mailed questionnaires to 413 wholesalers in major metropolitan markets across the nation. In all, 118 distributors replied. They listed the names of 173 manufacturers whose lines they handle on a selective distribution basis (an unrealistic number possibly stimulated by EW which arbitrarily defined a selective distribution line as one "sold through less than 50% of the distributors in a trading area").

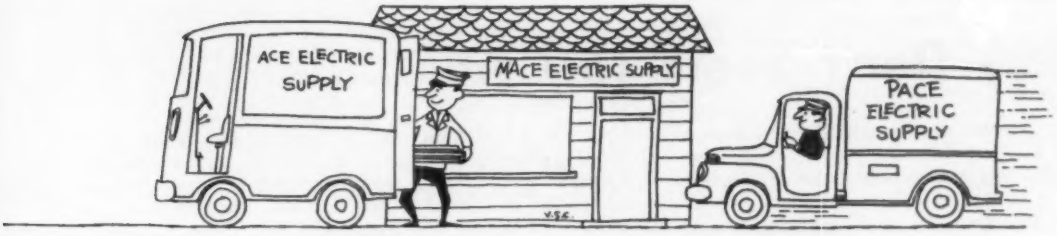
Since there seemed to be some confusion as to what was a selective distribution line, EW restricted the analysis of the returns to those that listed a leading motor control line (25), a leading fittings line (16) and a leading lighting fixture line (11). Some general conclusions drawn from these questionnaires are:

• Over 50% of the wholesalers said they sell items from their selective distribution lines to all competing wholesalers.

• Over 50% of the distributors said they thought of such courtesy interchange sales as profitable business, even though by making such sales they are not "strongly representing their selective manufacturers" and are possibly "cutting their own throats ultimately."

• Over 50% of the distributors say that courtesy interchange is making it easier for newcomers to become successful in the field.

Why are things this way? Because the distributor is out to "please the customer" who wants one-stop service, and the manufacturer is indifferent about the free exchange of his products, say the answering distributors.



Sell to Each Other?

tory purchase privileges but which their competitors did not. Out of these 12 answering distributors, 11 said they would discontinue such sales if their competitors did.

What commercial problems would arise from such a discontinuance? The majority of wholesalers forecasting said that it would create hardships on customers who depend on the distributor for one-stop service. Several distributors claim that it would make some old-fashioned selling the order of the day and "distributors would become distributors—not brokers." The minority of distributors thought that they would lose orders, "but even if we did, it would be good for the industry."

• **Representation**—Out of 20 replying distributors (5 did not answer this question), a big majority of 16 claimed they knew that they were abandoning part of their function of "strongly representing their selective manufacturers when they willingly supply any and all brands of material." They also said they realized they were "cutting their own throats ultimately" by encouraging the possibility of manufacturers selling direct to consumers to obtain proper product sales effort.

According to one distributor who went along with the above majority, it's not as bad as it sounds. "Sure, the practice will lead to an eventual erosion in the industry. But this erosion is an extremely small one compared to the almost complete demoralization of our industry in the areas of pricing and credit extensions.

"Why worry about a slow decay at a time when management either cannot, or will not, cope with the problems that threaten the very existence of our industry?"

• **Supplying Newcomers**—Out of 23 replying distributors, 16 said that the supplying of selective brands to newcomers in the field has made it possible and even easy for fledglings to become successful even with established distributors' customers. Sixteen out of 24 distributors said their salesmen *are* disturbed, or would be, when and if selective brands are sold to competitors.

• **Supplier Attitude**—The majority of answering distributors claimed that the attitude of selective line manufacturers has been one of indifference towards the matter of courtesy interchange sales. Suppliers, say the majority of distributors, hold no objection to this practice.

Only three distributors report a negative reaction from the manufacturers. Says one: "Very bad." Says another: "He doesn't like to see it."

Other distributors' remarks suggest that a manufacturer's attitude seems to depend on the prices at which the units are sold. The comments also indicate that some selective line suppliers encourage the practice of free exchanging to establish qualified electrical wholesalers.

Still other distributors' remarks advance the opinion that the manufacturer likes the added volume—it keeps the product popular; that the manufacturer wants the sales but not too many distributors involved, because "they like to say they have selective distribution." One distributor said that the manufacturer likes to deal with "solid" distributors but wants his product broadly available to the trade.

• **Supplying Policy**—"What is your practice on supplying items which must be bought from competing distributors?" Twelve wholesalers claimed that they sometimes substituted or declined; 6 distributors said they readily made buy-outs and tried to supply all customer needs; 4 distributors claimed that they usually substituted or declined. Three other wholesalers said they did things in a different way:

• "We encourage salesmen to sell their line because they are prone to sell product lines in reverse ratio to the number of distributors in the area that have the line."

• "We substitute when possible, back-order if we have to, or pick-up from competing distributors as a last resort."

• "We make as few buy-outs as possible and usually it is at the request of a customer who does not care to trade with our competitor who carries the brand."

• **Making Buy-outs**—The general view of electrical wholesalers in regard to the practice of making buy-outs from other distributors to service customers is a negative one. Says one wholesaler:

"We avoid it. We will not accommodate a customer at a loss just to get an order. I say if you can develop enthusiasm for your select line and know it inside-out, you can sell it. Buy-outs can be an expensive, low profit deal. The only time we will do it is when the regular customer is in hot water and demands the unit right away."

Another wholesaler had the following to say: "we actually prostitute ourselves trying to meet each whim of the customer. The recent craze for volume has led distributors to attempt and sell all potential customers within their grasp. Under these conditions I consider picking up foreign items from our competitors to be extremely expensive and unrewarding. We continue it now because we make few, if any, price concessions and can hope to hold our customers only by giving gilt-edged service.

"If the price market ever stabilizes (which I doubt), then groups of contractors might develop a pattern of buying from only the houses they like best. Such a pattern might provide a credo to the philosophy of supplying a good customer with everything he needs, no matter what the difficulties of acquisition are."

• **Will it Change?**—There is an ever increasing number of manufacturers and a rising complexity of product lines. Does this mean a long range outlook of change in the relative seriousness of the buy-out problem? Out of 23 distributors answering the question, 15 declared "no

'Suppliers Don't Seem to Care'

substantial change." Seven distributors said they thought it would become a greatly increasing problem, and one distributor thought that the problem would decrease in time.

• **Selling Price**—Seventeen out of 22 replying distributors claimed that they sold goods at regular resale prices that were specially bought-out to accommodate customers. The remaining five wholesalers said they added to price for buy-out expenses by the following means:

1. Plus 10%.
2. Sell at smaller quantity price and add for incoming freight, if any.
3. Buy at best contractor price less 5%. Sell at quantity price or discount.
4. Varies according to customers.
5. A percentage markup decreasing with dollar value of sale.
6. When margin is close and only with customer's knowledge.
7. When we can.

2. A Leading Lighting Fixture Line

SIX out of eleven distributors carrying the same major lighting fixture brand claimed they sold this selective line and others to all other competing distributors upon request. Five wholesalers claimed they sold only to distributors whose inventories and brands offered a valuable reciprocal advantage.

• **Pricing Policy**—There was a split vote on pricing policy among the distributors questioned. Five distributors carrying the same major lighting line said that on sales to other distributors their policy was distributor cost plus 10%. Five wholesalers listed their prices as contractor prices less 5%, or contractor prices less 10% (two wholesalers claimed 10%). One distributor said that it varied according to arrangements he had with certain distributors on lines he did not handle but which were made available to him.

• **Good or Bad Business?**—Over half of the distributors replying, who carry the major lighting line in question, said that they thought it was profitable business to handle orders from competitors. Twenty-seven per cent of the distributors (3 out of 11 answering) thought it would be "penny-wise, pound-foolish" to make it possible for their competitors to handle selective brand material on which they had factory purchase privileges but which their competitors did not. Out of the three answering wholesalers, two claimed they would discontinue such sales if their competitors did the same.

The commercial problems which would be generated from such a discontinuance have been outlined by the wholesalers with the following quotes:

• "It would in some cases work hardship on the customer. An example would be on a lighting fixture job where the customer wanted to buy a complete package from one source. On a small part of the package it is less trouble all the way around to pick up an item than to attempt to substitute."

• "No great problem would exist because most customers have more than one source of supply. It would aid in increasing salesmanship though."

• "None. When we do it the customer usually realizes that it is purely an accommodation."

• "It would limit one-call service, and 'let us have your problem, we handle it' type of service. At the present time, if a customer demands a brand because of preference only, we tell him who distributes it."

• "We would lose business."

• **Representation**—Over half the replying distributors claimed they knew they were abandoning part of their function of strongly representing their selective manufacturers by partaking in courtesy interchange. They also admitted to "cutting their own throats ultimately" by encouraging the possibility of suppliers selling direct. Thirty-three per cent, or three out of nine of the distributors answering, said they thought they were fulfilling their function of strong manufacturer representation through courtesy interchange practice.

• **Supplying Newcomers**—Out of 11 replying distributors carrying the same major lighting line, 9 said that the supplying of selective brands to newcomers has made it possible and even easy for recent entrants into the field to become successful with the established distributors' customers. Close to half of the 11 replying distributors said that their salesmen are not disturbed nor would they be disturbed when and if the wholesaler sold selective brands to competitors.

• **Supplier Attitude**—The majority of answering distributors claimed that the attitude of selective brand manufacturers has been one of indifference, placidness or "no comment." One distributor remarked that manufacturers don't seem to care, "just so long as it isn't shipped out of our local trading area."

Other distributors had the following to say:

• "The supplier approves in most cases, since our competitors furnish the brand specified rather than trying to break the specification."

• "At present they recognize it as a necessity but request the selling distributor to make a profit and not to permit the buying distributor to disrupt the market with extremely low prices."

• "The supplier prefers that it not be done."

• **Supplying Policy**—Five of the replying 11 distributors carrying the same major lighting line said that they usually substituted or declined when it came to supplying items which must be bought from competing distributors. Three out of the 11 answering wholesalers (27%) said they readily made such buy-outs and tried to answer all customer requests. Nineteen per cent (2 out of 11) claimed they sometimes substituted or declined, and 1 distributor said he attempted to substitute, but if he was unable he usually bought-out.

• **What About Buy-outs?**—Five in favor, four against, one holds to a minimum. That's how the line-up looks when gleaned from the remarks of electrical distributors answering the question: "what is your view on making buy-outs from other distributors to accommodate your customers?"

The distributors who expressed their feelings against the practice said they preferred not to make buy-outs and try to avoid it whenever possible (though sometimes they have to), because it "is an extremely costly practice with a low gross profit. Sales of the products you handle should take the place of buy-outs."

On the other side of the fence, distributors said that buy-outs build better service for the customer and also create good will.

One distributor stated that he tried to keep buy-outs at

a minimum due to the cost of handling for such items.

• **What About Future?**—"Because of the ever-increasing number of manufacturers and increasing complexity of product lines, do you see a long-range change in the relative seriousness of the buy-out problem?" Answers to this question were: Six distributors saw no substantial change; two saw buy-outs as a lessening problem and two said it would increase greatly.

• **Selling Price**—Out of 11 replying distributors, 9 said they sold goods at regular resale prices and 2 claimed they added to price for buy-out expenses by:

1. plus 10%,
2. Sell at less quantity price and then add if there is any incoming freight.

3. A Leading Fittings Line

NINE out of 16 replying distributors carrying the same major fittings brand with selective distribution claimed they sold this selective line and others to all other competing distributors upon request, according to the survey.

Four of the wholesalers responding said they sold this selective line and others to distributors whose inventories and brands offered them a valuable reciprocal advantage. Two of the wholesalers questioned said they sold only to a restricted list of competitors who, in the main, distributed the same lines they did. One distributor said he sold his selective lines only to other authorized distributors of the same brands.

• **Pricing Policy**—Thirty-seven per cent (or 6 out of 16) of the answering wholesalers claimed that on courtesy interchange sales to other distributors their pricing policy was: "contractors prices less 5%"; "contractor price less 10%" (one distributor made claim to the latter). Five (31%) of the surveyed wholesalers said "contractor prices only" and four claimed "distributor cost plus 10%" (one distributor in this latter category said his pricing policy is strictly on a reciprocal basis).

• **Is It Worth It?**—Over half of the 16 distributors think that it represents profitable business to handle orders from competitors for brands which they have on a selective distribution basis, while 7 distributors (44%) thought it would be unwise to make it possible for their competitors to handle selective brand material on which factory purchase privileges belonged—but which their competitor did not have. Of this 44%, six distributors said they would eliminate such sales if their competitors did likewise.

The problems that would follow in the wake of such a discontinuance have been detailed by the distributors with the following quotes:

• "Problems may develop on small pick-up orders that could be shipped complete."

• "It would be necessary for our salesmen to sell our lines—which should be done. This would make us stronger with our manufacturer-suppliers."

• "We would lose sales but this would be made up by the fact that our competitors would not have our items."

• "We still might have to supply some items to satisfy our customers but this would decline as the restriction became broadly known and our salesmen tried harder to sell the comparable lines we have."

• "If there were such a thing as a firm pricing policy, we would be able to take any commercial problems that might pop up. But in actual practice, sending customers to competitors would quickly teach them that they could buy elsewhere for from 5% to 15% 'off the book.'"

One distributor claimed that he would not discontinue the practice, even if his competitors did, because of the reciprocal features involved in courtesy exchange.

• **Representation**—Eleven out of sixteen distributors answering the survey said they knew they were playing down the part of their function of acting as a strong representative of their selective suppliers. They also admitted to knowing they were "cutting their own throats ultimately" by encouraging the possibility of manufacturers selling direct to customers to obtain the proper sales effect.

On the other hand, the remaining five distributors (31%) said they thought they were fulfilling their function of strongly representing the manufacturer.

• **Supply Newcomers?**—Nine out of 16 wholesalers carrying the line in question said that the supply of selective brands to newcomers has made it possible for newcomers in the field to become successful, even with the established distributor's customers.

It was 50-50 when seven distributors said "yes" and seven said "no" to the survey question: "are your salesmen disturbed or would they be when or if you sell selective distribution items to any competitors?"

• **Supplier Attitude**—The following distributor quotes highlight what wholesalers say about manufacturer attitudes toward courtesy interchange sales:

• "We find that some of our manufacturers, who at one time would not allow it, are closing their eyes to the practice. Some suppliers openly admit that they know some distributors are bootlegging. I think we need stronger policies."

• "If it were a growing thing in our area, I think the manufacturers would object."

• "They want us to make a profit on all sales."

• "Manufacturers are only interested in making the sale."

• "A minority of manufacturers would rather see their distributors sell to each other and not to the trade."

• "They didn't care for the practice, but now have stated it should be stopped."

• "They like the business."

• **Buy-outs**—A very slim majority of wholesalers tipped the scales in favor of buy-outs and trying to supply all customers' wants. Close behind were those distributors who said (1) we usually substitute or decline; (2) we sometimes substitute or decline; (3) we use "other" means.

The "other" means used by some distributors were:

• "We attempt to substitute but if it fails we buy out."

• "We make as few buy-outs as possible and usually at the request of a customer who does not care to trade with our competitor carrying the brand."

• "We try to sell our brand first. When it can't be done, we buy from our competitor at his standard price. In no case do we mark down such items."

• **Policy on Buy-outs**—Only one distributor came out and said that the practice of buy-outs is expensive and also a low profit arrangement. Most of the distributors questioned agreed that the idea of making buy-outs is either a factor in the "good service" that the distributor prides himself on giving, or they are forced to do it because of the area in which they are located.

• **An Increasing Problem?**—Out of 16 replying wholesalers, 10 said they saw no substantial change in the buy-out situation, 4 said they thought it would become a greatly increasing problem because of increasing product complexity and 2 said that it would decrease.

• **Selling Prices**—An overwhelming majority of 15-to-1 in favor of regular resale prices was given when distributors were asked what was their selling price on goods they specially buy-out to accommodate.

Only one distributor indicated that he added to the price to compensate for buy-out expense if a customer does not want to do business with another distributor.

COUNTER stock room is divided into two equal parts, as shown by dotted line. Each of the two countermen is responsible for maintaining stock in his section, and for keeping the aisles neat in promoting faster service.

Counter Credo: More Service, Less Time

The counter operation is a profitable business at Mid-Island Electrical Sales Corp., where customers can depend on maximum service in the least amount of time

By Robert S. Bush

ATTITUDE and service are two key words at Mid-Island Electrical Sales Corp. in obtaining counter sales that now amount to 40% of the total volume of business.

In placing an emphasis on counter sales, the Mineola, N.Y., distributor personnel believe that this phase is one of the most important to the firm.

"If a contractor or his electrician takes time to make a purchase at our counter, we feel we should be absolutly sure he is satisfied he made the purchase from us," Ed Boudreau, sales division manager, says. "Basically, we have built up our counter operation because we have been able to give the customer the largest amount of service in the least amount of time."

• **No Waiting**—Two full-time countermen and one shipping clerk are always available to assist the customer. During any time when these three are unable to handle a volume of customers quickly, Boudreau and other office personnel assist at the counter.

Boudreau points out the well-known fact that the counter is no place to waste time with the customer.

"His time is valuable," the sales division manager adds. "The electrician is interested in getting his materials fast, and the electrical contractor is interested in getting him to the job site so that less time and money will have to be spent."

• **A Forecast**—Through the use of new products displayed at the counter, Mid-Island personnel are able to ascertain the sales outlook for these items.

Believing that one of the best ways to push new lines is to display them, Boudreau shows a new product each week. Countermen are instructed to bring these products to the attention of all customers by pointing out features and applications.

"Our own men not only learn about the products themselves," Boudreau says, "but we are able to see fairly well just how these new products are going to be in demand by customers in the future. With this information, we can even plan to a small extent how we will sell these items."

• **Counter Procedure** — At Mid-Island, countermen are encouraged and qualified to handle complete sales. Boudreau does not believe that a customer should be "passed around to several employees of the company to obtain answers to questions." He makes sure that his counter personnel are able to answer all questions immediately. This, he says, saves time for everyone, and gives a customer the feeling he can always find fast assistance at Mid-Island.

Countermen obtain much of this knowledge from manufacturers' schools; some comes from manufacturers' representatives and agents.

"A great part of this knowledge our countermen have comes from their experience, however," the sales manager states. "They have the correct attitude that they help make the business—that they are not just working for the operation. And most important, they realize that there will be a future opportunity for them to move up in the company."

• **More Knowledge**—Mid-Island has a policy of maintaining a stock of special or unusual items for customers who might need these products. Each counterman maintains a daily list of unusual products he has been asked for. These items are listed by Boudreau in a master book.

At the end of each day, he and his countermen go over this list and decide whether or not to order the product and keep a back-up stock for the customer making the request. The official takes into consideration the frequency with which the customer might need the particular item.

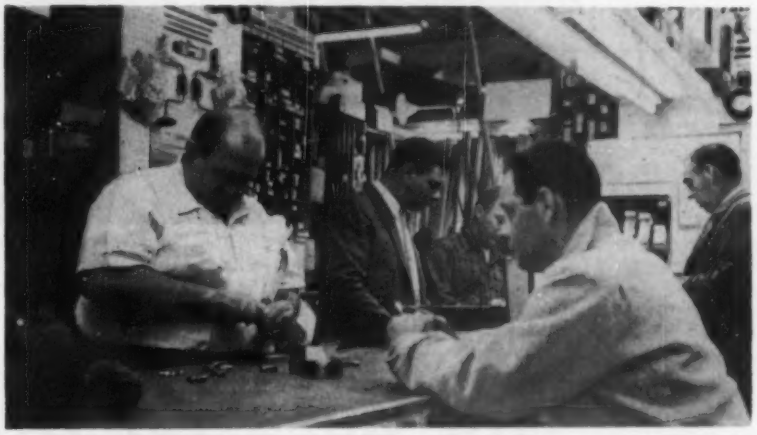
Even though Boudreau may decide not to stock an unusual item, countermen will order it for the customer even when no profit is involved.

• **Counter Buying**—In a sense, the countermen at Mid-Island also are buyers. Management feels that since these men are the closest to the counter operation, they are in a better

NORMAL functions of countermen are to keep constant check on all items in back-up stock and in warehouse.

SALES Division Manager Ed Boudreau checks lists of unusual or special items ordered by customers.

MASTER catalog is available to customers at counter. While waiting, customers use it extensively.



DURING RUSH PERIODS, Boudreau (center) assists customers at counter. As part of the service, countermen constantly show new products to their customers, and explain various applications for products.

position to know what is needed for back-up stock.

Much of the time, manufacturers' men go directly to the counter personnel for orders. Because the countermen check their inventory frequently, they normally know exactly what and how much to order.

After the order has been placed, the counterman goes to the office and obtains a purchase order slip.

"Much is left up to the counterman not only because he knows better what we need, but because it gives him a big assist in knowing what is in stock and what is on order," Boudreau says. "In addition, it gives him a much better knowledge of the individual items, and also a broader knowledge of products handled by the manufacturers."

Copies of all purchase orders are filed at the counter. This gives the counterman an immediate answer to a customer who wants to know when a specific product will be available.

Eventually, Boudreau would like to send his countermen outside on followup calls.

"Many prospects come in to the counter to ask a counterman about a specific product. We feel," the manager continues, "that if a potential customer takes the time to ask us about a product, he is interested.

"This, of course, should be followed up. Since the prospect made an initial contact with the counterman, this employee should receive the benefit of the sale, if there is one. We are thinking along these lines now, and eventually would like to give it a try."

• **Fast Service**—For better warehouse procedures, the stock room is divided into two equal parts. Each of the two countermen is responsible for one of these sections in keeping it neat and in stocking items in correct sections of this stock area.

All stock is arranged according to products so that all similar items will be in the same area.

"This is another simplicity of our operation to get the customer in and out fast with the best possible service," Boudreau says. "By being responsible for specific areas, each counterman knows exactly where all products are located, and can provide the customer with the fastest possible service in filling an order."

• **Other Services**—In an attempt to provide better relations with the customer, countermen often make special deliveries to customers if the need arises. They believe they can stress better company service this way than by putting the order on a regular delivery truck.

When this is the case, Mid-Island pays for the gas used to make the special delivery.

In addition to this, the firm's countermen often will go to a job site to give advice to the electrical contractor. This occurs when a customer calls to tell the counterman that a product he purchased does not function in a proper manner.

Normally, Boudreau says that the counterman is able to show the contractor how to use the product correctly in the particular application. If he is unable to do this, he will give the customer another of the items.

A big asset to the counter customer is an encyclopedia of manufacturers' catalogs available at the counter for customer use. This includes catalogs of lines that may not even be handled by the distributor.

Often, while the customer is waiting for his order to be filled, he checks this catalog for products he might need or wants to know more about.

• **A Big Factor**—Almost 100% of all counter items for contractors are sold over the counter at Mid-Island.

"This is why we are set up to give every possible service to these customers," Boudreau says. "They are important to us. Much involved is a personal approach. But whatever our methods, we want to be certain our customers will keep returning to us for their purchases."

An Agent Answers
Some Tough Questions
And Builds . . .

The Case for the Ethically Operated Warehouse

An Interview with B. N. Yanow by Herb Cavanaugh

Q. Why do you operate a local warehouse?

A. I operate a local warehouse because many of my competitors operate them. I didn't have any idea of running a warehouse when I started out because I didn't know what types of lines were available at the time. I was influenced in opening a warehouse simply because a line became available in 1950 which had the policy of being sold through a re-distribution center. This manufacturer had to do this because his competitors were doing the same thing. This is how I became a stocking manufacturers' agent.

Q. What types of customers do you sell and supply from your warehouse stocks?

A. We sell only the legitimate wholesalers who are members of NAED or on any other list of verified electrical wholesalers that is available to us. I feel that we are very careful to determine who functions as a wholesaler and who does not. I know nothing about the rest of the country, but in the New England states, anyone who has been in the business long enough knows who is and who is not an electrical wholesaler.

On one of my first calls as a manufacturers' agent, I visited one of the prominent wholesalers in New England. I had never met him before, and today he is one of my very good friends. When I called on him, he said, "So you are going to be a manufacturers' agent." I said, "That's right, sir." He said, "Well, let me give you one bit of advice and I'll never advise you again. You are starting in a new field of endeavor. You're going to be able to go out and sell any contractor you want, any hardware store you want, anybody that will buy from you, and most likely you'll make a living. Or you can walk the straight and narrow and stick to the policies of selling wholesalers only, and you're going to make money. Either way you will make out. But remember, don't try to mix the two, because you are going to get yourself in a mess of trouble—oil and water just don't mix."

Why do I sell to legitimate wholesalers? Because

Why EW Conducted This Interview

In several issues this year (April, p.8,86; May, p.61; June, p.8; Aug., p.10), ELECTRICAL WHOLESALING has reported on and analyzed several aspects of the growth in warehousing facilities maintained by electrical manufacturers' agents. In some of the same issues and a subsequent one, EW's words were challenged by two agents (June, p.6; July, p.48) and commented on by several others (Aug., p.6; Sept., p.6).

Now, EW presents another article on the subject of such local warehouses. It is a tape-recorded interview with a well-known New England agent, Ben Yanow, president of B. N. Yanow and Co., Inc., Cambridge, Mass.

Mr. Yanow had informed us that our attitude toward agent-operated warehouses, as expressed in the first articles, "lacked compassion," and that it was unfair to be critical of only one phase of a problem when there were so many that should be considered. We agreed his point was well-taken and suggested to him that, "out of fairness," we should publish his viewpoint.

To bring out his viewpoint, we put a number of questions to him, some of which must be termed "loaded." But, in our judgment, they should be asked since they reflect the fears of many distributors on "local warehouses."

And, in our judgment, Mr. Yanow handled these tough questions very well, indeed. His answers, spoken with frankness and sincerity, should contribute toward building a case for the ethically operated agent's warehouse. THE EDITORS

I feel that it is the right way to do business. I realize that I could use the word ethical or moral, but somehow it's just the proper way to do business. It is the method of operation that over the long haul will bring back the greatest return.

Q. Have you established a policy for sales from your warehouse? If so, what is that policy?

A. Evolution occurs not only in life, but in business. At any given time in a profession or business, you will find someone at the top, or someone that is up and coming. The important thing is what an individual firm does when it reaches a certain plateau. I have already told you that we sell legitimate wholesalers only. We have reached the point where in some of our lines we have begun to establish a more limited type of distribution, because these lines have reached a point where they should not be available to every wholesaler. Recently we have started two lines on limited distribution. Six or seven years ago, it is something I wouldn't have dared to do because one of them was all but non-existent in the field and the other wasn't as acceptable as it is now. Soon these lines will have a definite form of limited distribution.

There are some lines that lend themselves to limited distribution. There are others that do not. Our policy is to work toward limited distribution on those lines that fall into that category. We propose to sell other lines not suited to limited distribution to all qualified electrical wholesalers.

One must remember that our factories guide us in policy making. After all, agent or direct representative, the salesman must carry out his principal's policies. We choose to represent only the people whose policies parallel our own.

Q. Do your customers feel that your warehouse stocks are an advantage to them?

A. The simple answer is that if the customers didn't feel that warehouse stocks were an advantage, they wouldn't be customers. I can think of one instance where I was present at a meeting, and one of our customers, one of the large distributors (a very good customer of ours now) was influenced by derogatory remarks of a speaker with regard to local warehouses. After the meeting, the distributor expressed his feelings to me in that direction.

Shortly after that, his firm called us late in the afternoon for a rather large order of a certain type of material, and they had to have it by the next morning. He got the material the next morning. We just told him that we were very glad to be of service and that perhaps now he had learned how essential it was for the material to be overnight from him rather than several days away, because in this manner he was able to service his customer better. Subsequently, the distributor told me he altered his opinion of local stocks that were properly administered.

Way back in 1924—and probably before that—such warehouse stocks were in existence in New England. Therefore, many of the customers in New England have already had an awareness, whether it was my stock or someone else's, (and let's face it, in 1924 I was only 9 years old) of the service being given by the local re-distribution center. It was not a matter of my convincing them what the advantages are. This they already knew.

Why do distributors feel it is an advantage? When I worked for a wholesaler, we used to carry a very large inventory, despite the fact that we were only within a mile or two of most local warehouses. This was necessary on the wholesaler's part because one must remember that the proximity of a warehouse has no relation whatsoever to and can have no influence over the fact that a distributor must maintain adequate stocks if he is to properly serve his customer.

No matter where a wholesaler is located, his minimum orders must be in stocking quantities. He certainly doesn't buy, for example, 25 100-amp fuses at a time only to run back three hours later. This is just too costly, not only for the wholesaler but also for the stocking agent as well. If we as agents had to live on broken packages for our livelihood, we would soon go under. We must maintain a policy, not for ethical reasons alone, but because it is just good business.

When this interview is concluded, I would like you to make two calls on distributors. One is located half a mile away from our warehouse and the other about two miles away from the warehouse. I want you to see for yourself the investment these wholesalers have

B. N. Yanow is president of B. N. Yanow and Company, Inc., Cambridge, Mass. He broke into the electrical industry in 1934 with a wholesaler, starting out in the office, then switching to the counter and finally outside salesman. In 1948 he became a manufacturers' agent and in 1950 he opened a local warehouse. Yanow has a Bachelor of Business Administration from Boston University.

CONTINUED

Where Is That Distributor's Self-Control?

in inventory when still within the shadow of the local warehouse. [*Ed. note: the two distributors were Loman Electric Supply Co., Inc., and Liberty Electric Supply—both strongly in favor of the back-up power of the agent's warehouse and both with large inventory investments.*]

The advantage that distributors see in the manufacturers' agent's local warehouse is this: the distributor does not have to wait a long time to have his order processed so he can maintain the adequate back-up stock that is so important in giving normal quick service that the distributor's customer wants. The local warehouse and the manufacturer's man who runs it are the back-up factor that is necessary to the electrical distributor. The local warehouse does not represent emergency service; in fact, there are few times when the emergency feature even enters the picture.

Q. In the study he did for ELECTRICAL WHOLESALING, Dr. Edwin H. Lewis wrote, "The pressure for markets has thrust the manufacturers' representative into a more dominant position in some lines—especially wiring devices and fixtures sold to contractors. In many areas, the representative is performing functions historically performed by distributors." Would you care to comment on that?

A. This is an ambiguous question, but I will try to answer it. I assume he means these lines are being sold direct to contractors. I do not believe that what he said in his quotation exists in New England. I know of no devices or fixtures being sold to contractors on a direct basis. I feel that all lines that are carried in New England, which I have knowledge of, are funneled through the wholesaler.

You can find good and bad in any field of endeavor you turn to, I don't care where you go. I am certain that the percentage among electrical manufacturers' representatives is no different than in any other field, profession or category that we have in the country.

Q. A number of wholesalers have commented that the operation of warehouses by agents or manufacturers represents usurpation of the wholesaler's warehousing function. Would you care to comment on that?

A. I don't see where these comments are necessarily in order because I pointed out earlier in one of the preceding questions that even wholesalers who are very close to warehouses still have to keep a full line of material because no customer is going to wait until the wholesaler runs down to some warehouse to pick up 10 coils of flex or 40 bundles of EMT or 20 100-amp fuses. The wholesaler's function is no different in my opinion where the warehouse is close by or whether a factory is close by. What I have in mind is a large manufacturer of electrical material in one of the New England cities. If you were to conduct a survey of the wholesalers in that particular city you will find their lead line to be that of the manufacturer in their city. If you went down the line within an hour-and-a-half driving distance, there is another manufacturer of the same material, in fact two of them. And, if you were to conduct a survey there, you will find that all these wholesalers carry the two local lines of material.

I have found that any wholesalers who have spoken against local warehouses use them just as much as anybody else, and, in fact, they are the ones who abuse the use of a warehouse more than the general run of distributors.

In view of this matter, the distributors who have a bad feeling against local warehouses usually don't buy the lines that are stocked as such. So, naturally, when they need something from the local warehouse, it's usually an odd ball.

But where is their self-control? Where is their self-control at a time when their customer needs an odd ball and they would like to service this customer? Where is their control when they could tell the customer: "I'm sorry but I am out of stock." Instead of doing that, they then put the burden of responsibility on the agent, by ordering from him.

Now if all distributors disbelieving in local stock were to exercise this degree of control, they should say: "Well, I'm sorry we don't have this item," and just pass up the order. But they put the responsibility on the agent and make him squirm. I have told many accounts we could not service their unusual needs unless they became a stocking distributor. The account that doesn't stock cannot get the material from us. So this matter of evolution comes back into the picture at this point. We have reached the plateau where we can attempt to do this and are doing it.

One should also remember that when agents are being accused for the type of people they sell, the billing is done by the manufacturer. Even if an agent were weak enough to sell direct, the manufacturer could stop it immediately. So when an agent sends in an order—assuming that he were to sell a contractor in New England—the billing is done by the manufacturer and it puts the manufacturer in the position where he can say, "Say, listen fellows, this is a contractor. I refuse to ship this order."

The responsibility lies not only with the agents but with the manufacturers they represent. If there is direct selling going on, the manufacturers in question could clean it up in a heck of a hurry.

Q. Another charge leveled against manufacturers' or agents' warehouses is that, by duplicating wholesaler's warehouse stocks, they tend to increase costs through the establishment of excessive field stocks. Would you care to comment on that?

A. I don't think I am completely qualified to answer this question. This falls basically into the field of economics. I do think, however, if stocks were not maintained in the field, they would have to be maintained at the factory. So I doubt that a serious degree of duplication actually occurs. Believe it or not, manufacturers have money problems, too!

Q. If it is a truism that you are paid only for those economic functions you perform, does it follow that distributors' margins will deteriorate when they have surrendered part of their function to manufacturers or their agents?

A. I do not agree with the conclusion that margins will deteriorate. I cannot see where the manufacturer or agent has taken over any of the distributor's functions. The distributor is the one through whom the flow of material has to go, in order to deliver at the

"I do not agree that margins will deteriorate."

lowest possible cost to the ultimate consumer, whether he be industrial or contractor. A manufacturer may do his best at advertising in the national publications or local ones, or have salesmen go to industrials or contractors to further the acceptance of his own particular product. And this, of course, has been going on for years. Creating a demand. This is nothing new. Nothing different about it. But I see no possible reason or chance of reality that the distributor's function will be replaced in any of the lines that we represent.

Missionary work with the distributor is not confined to our field alone and, besides, show me the distributor who doesn't welcome this service. Now, do you call this a surrender of the wholesaler's functions?

I can think of a certain item which is not stocked locally by either a manufacturer or an agent where the prices unfortunately are at a cut-throat level. The price the wholesaler gets for this commodity is certainly not being influenced by local stocking because local stocking just doesn't exist on this item. The margin of profit that wholesalers get is something which I am sure is of concern to them, but this is basically their own problem.

Q. It is a fact that agents who operate warehouses have a higher overhead to cover than those who don't. Is there the possibility when demand becomes slack that warehousing agents, in order to protect their investment, will be forced to sell direct?

A. It seems to me that somewhere in some history books, men went to jail back in the 1700's or 1600's for stealing a loaf of bread to feed their families. How can I prophesy what any individual will do under dire circumstances?

"How can I prophesy what an individual will do?"

I have been tempted to stray from the straight and narrow, but I have never succumbed to it. This is a matter of moral and ethical belief. And it has nothing to do with any particular phase of business. This applies to all people in all walks of life under all circumstances—agents, wholesalers, editors, contractors, publishers, etc. To be sure, as in all businesses, there have been periods of stress where there was more money going out than coming in. I have operated at a loss at various times during my business life, as I'm sure many other individuals or firms have. But it has been my belief that we have a particular function to perform that is very rigid and that we must operate within that realm in order to keep on doing business.

It is a fact that we have gone through periods where we kept on losing money. In the past, we have faced industry striking. 1958 was not a good year. There were several months where my operation was in the red and yet at no time was I tempted to do anything other than what I've been doing since I started out.

Q. In a letter published in our August issue, an agent wrote, "The malpractices among agents of cutting wire, of breaking cartons, of selling lines promiscuously have also helped to create a stigma on agent's warehouses." Would you care to comment on that?

A. We cut no wire. We have only one line in which we could possibly cut wire. In so far as breaking cartons is concerned, a question arises here as to the type of commodity involved, and there again I can only speak for my own lines. I can think of a few items where the manufacturer has made his standard package far in excess of the normal requirements for a distributor. I have talked to the manufacturer involved and he had some changes made. However, I will in very few instances break a standard package when I firmly believe that this particular item should have been packed in lesser quantities. I have no feeling of guilt about it because I know were these items ordered from my manufacturer's competitors having standard packages of a lesser amount, it would merely be a situation where the standard package is smaller.

One thing that we should all remember is this: it's difficult for an agent when a large customer puts pressure on him. A large customer will buy standard packages of practically all our items and then order some odd balls. If he is told, "I'm sorry these have to be ordered in standard packages," he says, "Pack one to a package. You give me the one or let's forget about doing business." The pressure is put on us. What would a wholesaler do under the same circumstances? What does he do for his customers under the same circumstances?

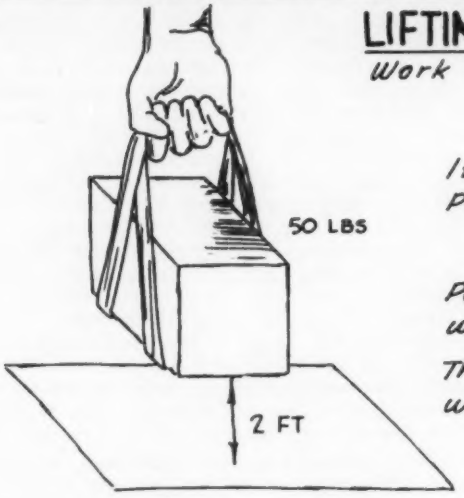
Q. A hypothetical question: In the event that all manufacturers suddenly decided to set up their own local warehouses in marketing centers across the country, what effect do you think that would have on the wholesale distributor and the agent?

A. No changes insofar as wholesalers are concerned. To answer your question, I would say that the wholesaler would still have to keep the same inventory that he had been accustomed to keeping for servicing his customers. The manufacturers' agents would probably have to go out and get jobs selling for distributors as distributor salesmen—and they would do a damn good job!

Q. One final question: You stated the case for the ethical agent who operates a warehouse. Would you say your philosophy and convictions are generally shared by other agents who operate warehouses?

A. Yes.

THE SALESMAN'S TECHNICAL NOTES No. 82



LIFTING WEIGHT is an example of doing WORK. Work done in lifting 50 lbs 2 ft is

$$50 \times 2 = 100 \text{ ft-lbs.}$$

If this work is done in 5 seconds, the POWER involved is

$$\frac{100}{5} = 20 \text{ ft-lbs per second.}$$

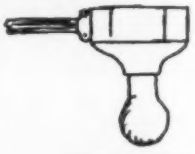
Power is described as the rate of doing work.

Thus it would take more power to lift the weight in 2 seconds:

$$\frac{100}{2} = 50 \text{ ft-lbs per sec.}$$

ENERGY is the ability to do work.

This lamp bulb is rated 100 watts. Its power consumption is 100 watts. If it operates for 20 hrs, the energy expended is $100 \times 20 = 2000$ watt-hours or 2 kilowatt-hours.



EXAMPLES:

1. What is the resistance of a 60-watt, 120-volt lamp bulb?

$$\text{OHMS} = \frac{\text{VOLTS}^2}{\text{WATTS}} = \frac{120 \times 120}{60} = \frac{14\,400}{60}$$

$$= \underline{240 \text{ OHMS}}$$

2. What current flows through this lamp?

$$\text{AMPS} = \frac{\text{WATTS}}{\text{VOLTS}} = \frac{60}{120} = \underline{0.5 \text{ AMP}}$$

3. A 1000-watt coffee-maker operates for 3 hours each day. How much energy is expended per week?

$$\text{KWHRS} = \text{KW} \times \text{HOURS}$$
$$= 1 \text{ KW} \times 3 \times 7$$
$$= \underline{21 \text{ KWHRS}}$$

POWER AND ENERGY RELATIONSHIPS

WATTS	= VOLTS x AMPS
WATTS	= AMPS^2 x OHMS
WATTS	= $\frac{\text{VOLTS}^2}{\text{OHMS}}$

1 HORSEPOWER = 550 FT-LB/SEC.
1 HORSEPOWER = 746 WATTS
1 HORSEPOWER = 0.746 KW
1 KILOWATT = 1.34 HORSEPOWER

4. An electric water heater is rated 3 kw, 240 volts. What power does it require operating at 120 volts?

$$\text{OHMS} = \frac{\text{VOLTS}^2}{\text{WATTS}} = \frac{240 \times 240}{3000} = 19.2$$

Operating at 120 volts, the resistance is still 19.2 ohms:

$$\text{POWER} = \frac{\text{VOLTS}^2}{\text{OHMS}} = \frac{120 \times 120}{19.2} = \underline{750 \text{ WATTS}}$$

Thus, only 1/4 the rated power is required to operate the heater at 1/2 rated voltage.

Pinpoints the Information You Need on . . .

Power and Work

By J. F. McPartland and W. J. Novak

CHARACTERISTICS and application of electrical circuits have, so far, been described in terms of voltage, resistance and current. These elements of electricity are, of course, important and essential to effective use of electrical systems. They are, however, strictly speaking, only incidental to the primary purpose of any electrical circuit. The function of an electric circuit is to provide power to do work.

Electrical systems, whether a simple battery operating a bell or a vast multi - voltage - level industrial layout feeding numerous power and light loads, exist only to do work—to ring a bell; to make lamps give off light; to make motors rotate with enough power to drive conveyors, pumps, fans, hoists and other mechanical loads; to make heating elements give off heat. The accomplishment of these tasks does involve extensive consideration of voltage, resistance and current; but the ultimate considerations are always of power and work. A clear understanding of the words "power", "work" and "energy" and their relationship to each other and to voltage resistance and current is essential to effective application of circuits.

Work is said to be done when a force acts through a distance. Force is understood to be a push or pull which changes the condition of motion or changes the shape of a body and is measured in standard units called **pounds.** It takes force to move a body that is at rest, to change the velocity of a moving body, to stop or change the direction of a moving body, or to deform—stretch or compress—a body. Lifting a 200 pound weight 10 feet is work rated at 2,000 foot-pounds. Or if an object were pushed along the floor with an average force of 20 pounds for a distance of 100 feet, 2,000 foot-pounds of work would be done.

It is important to note that time is not a consideration in evaluating work. In the two cases cited in the previous paragraph, the lifting of the 200 pound weight through 10 feet might have been done in, say, 5 seconds, whereas the pushing of the object by a 20 pound force over 100 feet might have taken a full minute. The work is the same in both cases, 2,000 foot-pounds. However, in the first case, the the work is being done faster. And the time-rate of doing work—how fast or how slow a given amount of work is done—is defined as "power".

Power is a measure of the rate at which work is done. A 220-pound man running up a 20-foot high flight of stairs in 10 seconds applies a lot more power than another man of the same weight who does the same amount of work in going up the same stairs in 50 seconds. Mechanical power is measured in units called "horsepower". One horsepower is equal to a work rate of 550 foot pounds per second. In the case of the two men running upstairs the first man did 220x20 or 4,400 foot-pounds of work in 10 seconds, which is 440 foot-pounds per second or 44/55 horsepower. The second man did the same 4,400 foot-pounds of work in 50 seconds, which is 88 foot-pounds per second or 88/-550 horsepower. The difference in power applied accounts for the time difference in doing the same work.

Energy is the ability to do work and is measured in the same units as work, foot-pounds. Energy is stored in a body and is expended when that body does work. In our previous discussion of work, the force applied to do work has to come from a source of energy. A source of energy is required, say, to lift a weight to a certain height. The lifting is an expenditure of energy which is work. And as a result of the lifting, the body lifted has been given potential energy equal to the work done. It can be seen that work consists in taking energy from one body and giving it to another body. Energy itself cannot be destroyed. It exists in various forms—heat, light, mechanical, electrical, chemical—and can be converted from one form to another. But the term "energy" should be differentiated from the term "work" which is the expenditure of energy.

Translating the foregoing physical concepts to conditions encountered in electrical circuits, we get the following: **Watt and kilowatt** are the two terms commonly used to designate electrical power. A watt is a measure of the time-rate at which electrical energy is expended, a measure of the rate of electrical work. A kilowatt is simply 1,000 watts. When speaking of "electrical power" then, we refer to the watts or kilowatts of the load or circuit. A 1,000-watt lamp uses electrical energy 10 times as fast as a 100-watt lamp. A 20-kw generator has more power than a 10-kw generator, i.e., it provides a higher ability to do work over any period of time.

Although electrical lighting and heating devices are commonly rated in watts and circuits, systems and electrical energy sources are also rated in watts, electric motors are correlated to the mechanical loads they drive and are rated in output horsepower. One horsepower is equivalent to 746 watts or approximately ¾ of a kilowatt.

On a purely electrical basis, 1 watt is the rate of energy expenditure when a steady current of one ampere flows under a pressure of one volt. In electrical dc circuits this is expressed as a basic power equation:

$$P = E \times I$$

where, P = power in watts

E = Voltage across load

I = Current through load

For example, if there is a current flow of 0.833 amps through a lamp when 120 volts is impressed across it, the electrical power of the lamp is—

$$P = 0.833 \times 120 = 100 \text{ watts.}$$

Next Month: Load Calculations

CORRECTION

Due to a last-minute typographical error, a line was dropped from last month's installment of The Salesman's Technical Notes (p.85). In the center column, lines 13 to 7 from the bottom should have read: "Note that the current is 24 amps up to the parallel group, becomes 12 amp through each resistance and then becomes a single current of 24 amps where it emerges from the two parallel resistances to return to the voltage source."

More Profits For "Partners In Business"

In Las Vegas—the land of the dollar exchange—NAED Western Region members met to exchange profitable ideas on their roles in industry partnership.

By Howard J. Emerson

FOR THREE DAYS at least, 665 electric supplies distributors and their manufacturer friends were up to their ears in "profits." It was the 52nd annual convention of the Western Region of NAED where this group took a short daily respite from the gaming attractions of Las Vegas, Nev., to follow a program cued to the theme of "Partners in Business." And for each of the 13 speakers, the need and desire for more profits from the partnership of manufacturer, distributor and customer was recognized and extolled.

Each of these speakers during the three morning business sessions explained and explored different ways in which the recognition of the partnership instead of a policy of self-determination could help to bring the industry out of the morass of profitless prosperity into which it seems to have fallen. The individual ideas are presented here in digest form by the ELECTRICAL WHOLESALING editors who attended the convention.

The convention was opened by K. P. Rehwaldt, GESCO-Los Angeles, and vice president of NAED's Western Region. He keynoted the meeting with the introduction of the theme, stating that the manufacturers, distributors and customers in the electrical industry are "partners in the business of serving human wants."

The program committee, headed by Clarence Kluttz, California Wholesale Electric Co., Los Angeles, included the three men who served as chairmen of the day for the business sessions: George B. Smith, The Coast Wholesale Electric Co., Burbank, Calif.; Earl E. Morton, WESCO-San Francisco; and John P. Lawton, Graybar, Seattle, Wash. Arrangement for facilities was handled by J. J. Pavell, Pavell Electric Supply Co., Las Vegas, Nev. NAED Western Region Manager W. M. Jewell coordinated the convention preparations and activities.

MANUFACTURER'S DAY

What Manufacturers Expect From Distributor Partners . . .

Robert J. Sloan, president, Crouse-Hinds Co.

FOR a profitable working arrangement as partners in supplying electrical goods to customers, manufacturers and distributors must recognize what is expected of each partner, pointed out Robert J. Sloan, president, Crouse-Hinds Co. He told the western region NAED members that this is "what the manufacturer expects":

- The distributor must realize that he is a member of the same industry as the manufacturer—the electrical—therefore he must give political support in opposing legislation that is unfair to the electrical industry.
- He must join in forcing the use of law in the settlement of labor disputes.
- The distributor must be vocal in favor of profits for all members of the industry.
- He should be ready to help the manufacturer in obtaining marketing information by:

1. Reporting to manufacturers on changing needs of the customers;
2. Becoming the eyes and ears of the manufacturer in the market place;
3. Reporting on potential growth in the market area he serves;
4. Helping in planning production by providing the manufacturer with estimates of future needs, particularly shelf goods.
5. By knowing his cost of doing business, thereby knowing the costs by lines and enabling the placement of orders less frequently but better geared in size to the distributor's long range needs.

Realism Can Help Partners In Wire & Cable Industry . . .

David E. Allen, exec. v. p. Anaconda Wire & Cable Co.

A PROFITABLE future in the manufacturer-distributor partnership in the wire and cable industry, based on a restoring of confidence and loyalty, can be achieved through a better understanding of the present and future conditions in the industry, indicated David E. Allen, executive vice president, Anaconda Wire & Cable Co.

He pointed out that " . . . our selling prices of late are completely demoralized and totally unrealistic and have no bearing on costs . . . these conditions, or even worse, may prevail in the wire and cable industry for an indefinite period . . . "

In the face of those conditions, said Mr. Allen, his company is reviewing every factor of cost. Included is the cost of distribution, with these items getting scrutiny: **1.** Investment in finished goods inventory; **2.** Investment in consigned stocks inventory; **3.** Investment in each distributor's warehouse; **4.** Total inventory investments in each trading area; **5.** Turnover of items in consigned stocks; **6.** Elimination of obsolete stocks; **7.** Cost of training distributor salesmen; **8.** Cost of promotional

VERBAL contribution to the concept of partnership in the electrical industry is made here by NAED president, J. A. Meier, speaking on "Partnerships Must Be Workable . . ." Western-garbed mannequins at left serve to dramatize the theme of the three-day convention which attracted 665 electrical distributors and manufacturer-guests.

programs with distributors; **9.** Allocation of salesmen's time and expense with each distributor.

With that study, Mr. Allen pointed out that his company will strengthen its relations " . . . with approximately 75%" of its present distributors, creating "a close partnership arrangement between manufacturer and distributor" that can produce "more effective results and more profit for both." In this partnership the distributor deserves: **1.** An adequate stock of items he can turn over at a satisfactory rate; **2.** An allocation of the manufacturers' salesmen's time for calls on important accounts; **3.** Field engineering service for important customers and on certain large construction projects; **4.** Product training for distributor salesmen; **5.** Sales promotional data, catalogs, technical data and pricing information on a full line of products; **6.** Quality products which are acceptable to the trade; **7.** Sales support to develop new markets with new products; **8.** Benefit of the manufacturer's market research service; **9.** Support of their principal suppliers in meeting legitimate competition.

The Customer is a Not-So-Silent Partner . . .

Donald D. Scarff, gen. mgr., Large Lamp Dept., General Electric Co.

MANUFACTURERS and distributors can't ignore the ultimate consumer, the "not-so-silent partner" required for a profitable three-way partnership, according to D. D. Scarff, gen. mgr., large lamp dept., General Electric Co. This customer cannot be taken for granted because there is competition from other industries seeking a larger share of the money that industry and business have available for long range modernization.

To compete, both lamp makers and sellers need a realization of what influences purchases by the third partner, said Scarff. Through a research agency, G-E asked 56 major distributors key questions of which Scarff reported on these two:

• **Q.** "When choosing a lamp brand, which one of these is the most decisive factor to your biggest commercial and industrial account?"

A. 31% of the answers listed distributor service as the most important factor. 19% listed price of lamps. 18% listed reputation and quality.

• **Q.** "When choosing a lamp brand, what is the second most important factor to your biggest commercial and industrial account?"

A. 23% of the answers listed distributor service—tied with reputation and quality. 16% decided on availability of products—only 9% listed price.

Mr. Scarff stated that those answers indicated that the not-so-silent partner has decided what he wants in this partnership, and if the industry cannot supply those wants, it will lose that customer's support and business.

In satisfying the customer's stated wants, the interrelationship of the distributor and the manufacturer is clear, Scarff stated. " . . . If a user likes a distributor's service, it means that he personally likes the distributor's salesman who contacts him. It means that he likes the distributor's operating policies and practices, his delivery service, his availability to give service on short notice, his financing arrangements, etc. All of these factors are influenced to some degree by the manufac-

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turer who stands behind the distributor . . ."

With that and other knowledge of the customer's demands, the manufacturer and distributor can appeal to the user's interests to build better and bigger business in the future. Mr. Scarff suggested an "Operation SELL", presented as:

Sound business planning;
Explaining the value of profits;
Leading in quality and product service;
Leading in creative manufacturing and selling.

Partners Need Firm Policies . . .

Leonard P. Shelley, vice president
Federal Pacific Electric Co.

THE PARTNERSHIP indicated by NAED's convention theme is not a partnership of expediency, even though many actions by both partners would so indicate, stated Leonard P. Shelley, vice president, Federal Pacific Electric Co. "One of these actions is unilateral decisions of policy affecting both partners. Sometimes the effect on one is a short-term good and lasting detriment to the other. These decisions of expediency must be combated by both manufacturer and distributor if we are to have any order in our pattern of distribution."

Shelley referred to " . . . a practice that is becoming more prevalent today, of manufacturers securing business directly from either a contractor or ultimate consumer, and then finding a distributor who will take that particular order at some predetermined low profit level . . . if there is any profit at all. To attempt to assess the responsibility for this practice would be fruitless . . . but it must be stopped. To condone it encourages it—to encourage it is disastrous!

"There are many matters in the field of joint decision on which distributors have failed to take firm positions," Shelley continued. "In many instances, manufacturers are willing to establish a policy for the common good, but because there are not enough people in your business who have firm ideas on such matters, the manufacturer does the very best he knows how, often to the detriment of the distributor. Matters concerning terms of sales, weights of prepaid shipments, returns and allowances, stocking distributor vs. a non-stocking distributor, drop shipments, shipments to other trading areas, are all matters on which each distributor should have firm convictions. What's more, these firm convictions should be compared with other distributors to get their viewpoints."

DISTRIBUTORS' DAY

Partnerships Must Be Workable . . .

J. A. Meier, president
National Association of Electrical Distributors

"WITHOUT a workable partnership, we may as well have none at all," cautioned NAED's president, J. A. Meier, in the opening talk of the session devoted to the distributor's place in the 3-way partnership.

To be workable, however, " . . . a sound partnership arrangement within our own industry requires . . . facts, vision, and most of all GUTS," Meier emphasized. "Armed with the right amount of each, at the right time they are needed, any businessman worth his salt can reach the goals he sets for his company."

In referring to the need for facts, Mr. Meier had this in part to say: "As partners in business, distributors and manufacturers must learn to communicate with each other more than in the past—either on an individual company-to-company basis or collectively as at this convention.

"The day may yet come . . . when manufacturers and distributors will become true partners within the law . . . when negotiation between the two will cease to be a sparring match . . .

" . . . Without proper communications we stand the risk of ignorance. Ignorance breeds contempt, arrogance and disloyalty—not the very best attributes for a successful partnership.

"If we learn to live with each other's problems, we are the better for it. If we understand why a policy is changed, why a procedure is modified—and we can sympathize with the reasoning behind it long before it goes into effect—we are thus in a better position to live with it and abide by the rules."

Those facts are of little value, Meier continued, unless the distributor has the vision to apply the things he has learned. He spoke of vision as "the kind that takes into account long range attitudes—where our business will be 10 or 20 years from now." And he stated, the facts and the vision must be implemented by the intestinal fortitude that gives the distributor "the determination and the courage to follow through on a course of action he *knows* is right for his business.

" . . . We are at a point of decision—the breakthrough point. We shall either continue with some of our see-saw business policies and slowly decline . . . or we shall slowly assume that important place in the nation's commerce . . . we will need all the facts, all the vision and the guts at our command—and all the help possible from our partners in business . . . to help us make the right choice."

Profits Are Moral . . .

Bolan H. Boatner, president
Westinghouse Electric Supply Co.

PROFITS are one of the most important objectives of the 3-way partnership of electrical manufacturer, distributor and customer, stated Bolan H. Boatner, president, WESCO, but " . . . we hear complaints from every segment of the electrical industry of the increasing difficulty of operating at a reasonable profit. In every case, the blame is placed on competition and—ever increasingly—on the insidious role by those who presumably profess to be our partners in business."

Mr. Boatner offered this comment: " . . . I believe that the degree of morality that we will attach to the concept of profit during the Sixties will determine the degree of prosperity we will achieve in that period." Then he offered the convention this suggestion: " . . . A simple but very effective four-point profit program that each and every company in this industry can adopt and conduct as its own. This plan encompasses:

"1. A definite plan of action for raising the profit

level of the company . . . only after top management has investigated the areas of the business that require immediate attention . . .

"2. A clear understanding among all employees . . . that such a plan is underway and will require their full support . . . also . . . it is advisable that suppliers become acquainted with the profit objectives . . .

"3. During the operation of this profit plan . . . be ever mindful that this is not a static industry . . . take into account the problems of change that will affect the program . . .

"4. Be absolutely sure that the program is managed with a firm hand . . . if top management loses interest and delegates the administration to others, the program will soon become an inconsequential company tool."

NAED Serves as Collective Partner . . .

Henry E. Jones, president
Valley Electric Co.

DISTRIBUTORS are industry partners not only as individuals, they are partners as a group through NAED, according to Henry E. Jones, president, Valley Electric Co., Sacramento, Calif. As a new member of NAED this year, Jones was on the rostrum to detail the reasons for his joining the association and to discuss what it meant to a man with 15 years experience as a successful electric supplies distributor. He explained that he signed up with NAED in the spring of 1960 for three major reasons:

- "I think this new partnership of my company with NAED will help improve our knowledge, efficiency and alertness—and thus help us improve our profit position . . . anyone in the electrical wholesale distribution business today must have all the resources and inventiveness at his command to help him run his company soundly . . . those of us occupied with the problems of management must take every opportunity we can to meet with and compare our ideas and experiences with others in the same business . . .
- "Another reason for joining NAED was to add the voice of our company in any way possible to the affairs of the industry . . . to have our 'say' in the development of attitudes that would go toward building a better industry in which we could work and prosper," Jones continued. He felt that problems must be solved as they appear, and that through association membership he has power to solve those problems greater than he would have as an individual firm. In addition, "By pooling our knowledge, talents and resources, a larger selling market is developed which ultimately will create more sales for our firm. Added to this is the fact that a single firm lacks the widespread impact of its opinions in its dealings with suppliers and customers that many member firms of an association have."
- Finally, said Jones, " . . . I feel that I owe to the industry in which I have earned a living something of what knowledge I have gained from this business experience . . . I want to give back to the industry a little of what I took out of it . . ."

Test Your Partnership . . .

Arthur W. Hooper, executive director
National Association of Electrical Distributors

TO AVOID winding up with a number of stumbling blocks in the way of smooth, coordinated partnership arrangement, each partner must analyze what kind of partner he is and what he is demanding of the relationship, advised Arthur W. Hooper, executive director, NAED, in his talk on Distributor's Day.

". . . This electrical industry . . . must learn to face the facts about our partnerships and our industry," Hooper stated.

"Every partner in this business seems to have his particular solution—it fits his problem, but, unfortunately, will not fit the related problem of someone else in the electrical trade channels.

"We've got too many square solutions at one level that cannot fit the round hole at another . . . just examine some of the solutions proposed at the manufacturing level that are diametrically opposed to the economic and practical considerations that must govern the operation of a wholesale business," he pointed out.

"On the other hand," he continued, "too many distributors propose solutions that are economically unsound for themselves as well as for the manufacturers.

". . . The distributor and manufacturer and contractor must be partners—(but)—. . . equal partners.

Of Partners and Practices . . .

Stanley M. Johns, vice president
The Electric Corp. of Calif.

TOUCHY aspects of the electrical manufacturer-electrical distributor relationship were set forth on Distributor's Day by Stanley M. Johns, vice president, The Electric Corp. of California.

Said Johns: "Partnerships . . . should have one thing in common—that is, the partners should always be interested enough in the mutual venture to watch out constantly for developing trouble and then to set about mutually to correct or eliminate the trouble spots. . . .

". . . The distributing industry . . . has problems . . . some of which have been forced upon us . . . by some of our so-called partners. Some problems we have brought upon ourselves. Then there are other problems which exist just because of poor communications. . . . The Southern California-Arizona area of NAED decided to try to do something about communicating concerning the problems that we do know exist. . . . We asked our members to tell us what . . . were the most pressing problems. . . ."

Johns then enumerated some of these problems. He listed (not in any order of choice or importance): credit policies and practices; selling practices of suppliers; wage and salary administration; delivery practices; returned material policies; material-handling problems.

In explaining how the problems were tackled, Johns went on: "We decided to hold area meetings to concentrate on one problem at a time. We also decided that a general discussion participated in by a broad range of members would be much more productive. . . . "Our first meeting was held on the subject, 'Selling practices of our suppliers.' We divided our total attendance into three equal-sized groups, each having a discussion moderator."

First step, said Johns, was to define the parts of the problem and then to discuss possible solutions. In defining the problem, facts were asked for—not hearsay, inferences, opinions, assumptions or premature conclusions. The moderator saw to adherence to this rule, while the recorder wrote down facts only. Discussion was spirited as the subject was tackled in these two parts: **(1) What are our suppliers doing with our customers that we would like to have done differently? (2) What are our suppliers doing with distributors that we would like to have done differently?**

Before presenting the points developed during the discussion, Johns stated: ". . . I want to make it perfectly clear that we, as distributors, recognize your legal right

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to run your business as you see fit. But as your customers —your partners in business—we also have a right to our own opinions on how good a job you are doing. Our purpose today is to give you the benefit of these opinions.

"First, regarding our customers (not necessarily listed in order of importance):

1. **(a)** Do you have a definite sales policy?
   (b) Have you made that policy known to your distributor customers?
   (c) If you profess to have a distributor policy, is it made known to, and lived up to, by your own employees and representatives?
   (d) Do you sometimes vary the policy for "convenience's sake" and then hide behind your manufacfacturing representative and blame him if your customers raise questions?
   (e) Select whatever policy you think is best for your business—just be honest with your partners and let them know where you stand and where they stand with you.
2. Price discussions with our customers.
   (a) Do you usurp the distributor's right to set his own prices by allowing your salesmen to quote directly to customers and thereby (to) predetermine the distributor's margin?
   (b) If your policy was to sell direct, would you always sell (i.e., extend credit) to those to whom you quote?
3. Releasing customer orders (placed by distributors) and accepting change orders direct from customer without insisting all such changes come through the distributor—whom you expect to hold responsible for credit and collections.
   (a) Do your order-desk men realize the awkward position in which they place themselves and the distributor by ignoring the company from whom they have received the order?
4. Unrealistic delivery promises and dates for approval drawings.
   (a) If you quote a date to get the order when your shop knows it cannot be met, you have cheated your distributor and our customer. It costs us money to expedite and in many cases it costs us the good will of our customer who may have been a good, steady user of other items but only an occasional buyer of your product.
5. Supplier salesmen should never discuss with our customers the relative merits or demerits of various distributors—above all, do not refer them to particular distributors "who will handle the product at a lower markup."
   (a) Supplier salesmen should limit their comments re distributors to showing or reading the list of distributors from whom their product is available.
   (b) If you feel you must favor some distributors over others, why not get rid of those distributors whom you do not wish to favor?
6. Suppliers should not encourage customers to call them directly. They should encourage customers to call the distributor of their choice.
   (a) If you want to take on the full sales function, then you don't need distributors.
   (b) If you are going to use distributors, then do all you can to encourage **them** to take on the full sales function.
7. Suppliers' salesmen should never discuss costs, markups, etc., with our customers.
8. Suppliers should have a definite policy regarding submission of alternates to specifications.
   (a) This is in the field of engineering and product design and is not a distributor function except to be the front man with the customer.
   (b) The manufacturer must retain the responsibility to get its products approved as equal or **have a specific** understanding with the distributor as to areas of responsibilities between them.

In regard to problems affecting our suppliers' work with distributors, we identified the following problems:

1. Non-selective distributors.
   (a) Many suppliers do not seem to have a policy as to appointing distributors.
   (b) If they have distributors in a given area and contemplate changes, they should discuss their plans freely and fully with all their distributors.
2. Carrying local stocks and making small deliveries.
   (a) If you have a local warehouse, do you use it as a true back-up stock or as a device to break down the need for the distributors' principal function—warehousing?
3. Spend more time training and assisting distributor salesmen to understand how to sell your products and less time assuming the distributor sales function (as discussed above).
4. Refine your procedures on partial shipments and billings of large jobs—or where lump-sum prices are quoted.
   (a) Incomplete shipments and billings are responsible for much lost time and often lost money.
5. Establish a realistic price policy.
   (a) Distributors resent "crack pot" type of price policy changes. Sometimes, it seems, on a month-to-month basis.
6. Terms of sale including payment time, cash discounts, etc., should be established on a realistic basis so they serve their intended purpose and help both the supplier and his distributor.
7. Suppliers, their salesmen or representatives should never carry tales between distributors regarding policies, personnel or internal problems.
8. If you plan to bring out a new item, don't release sales information until you are ready to ship. On the other hand, don't ship a new item unless you have forewarned the distributor.
9. Suppliers should have a definite and fair policy in regard to product performance and customer claims in this regard.

We further endeavored to outline the commercial activity areas in which the manufacturer (supplier) should properly function. We established the following items.

1. Sales promotion work with architects, engineers and industrial users.
2. Engineering help—beyond the distributor's capabilities. (Note: the distributor group should do much more to educate their own personnel.)
3. Industry shows, advertising, etc.

In addition, we would like to see our suppliers:

1. Publish realistic selling price sheets. The practice of "Buying" orders has only made the market more chaotic.
2. Establish policies regarding whether or not your product should be available to the trade through non-distributors.
3. Compensation for full-functioning distributors who really perform their distributor functions should be adequate to pay for these services and yield the distributor a reasonable profit.
4. Discontinue the discriminatory practice of accepting and holding "price protected" orders for delivery

CUSTOMER'S DAY

Contractor Partners Eye More Sales . . .

George B. Roscoe, director of public relations
National Electrical Contractors Association

THERE IS MUCH hazy thinking regarding the sales function of the three partnerships, according to George B. Roscoe, director of public relations, NECA, in his address to the NAED meeting. "There is entirely too much duplication of sales effort that runs up the cost of the electrical product and creates friction within our ranks."

Admitting that "the electrical contracting branch must accept censure for having failed to perform fully its sales responsibility . . ." Roscoe contended that ". . . as the electrical contractor stands on the threshold of the '60's, he is a much different man . . . he is receptive to change, knows change is inevitable and is seeking ways and means to bring his sales competence in line with his well-known production competence and his reasonably good financial capacity . . .

"He is trying, falteringly perhaps, to develop a pool of skilled sales employees on which he can draw to perform the function of selling which is now more important to him in many markets than the function of competitive bidding . . ." Roscoe continued.

"The electrical contractor asks his partners to understand what he is doing and why in this sales area and to assist him rather than continue to compete with him in important markets. That is, the contractor feels that if he assumes the responsibility for selling customers in the installed electrical markets—both new construction and maintenance—then he should have the support of salesmen for the distributor and the manufacturer and should not have to compete with them, at least on unfair terms. He realizes that to have this support he must win it by properly and adequately performing the sales function for the industry for these customers."

Industrial Partners Want Service . . .

George W. Rugg, mgr. of purchases
Bechtel Corporation

LARGE industrial buyers are interested in service and deliveries—along with low prices, warned George W. Rugg, director of purchases, Bechtel Corp., in his address as a customer partner at the NAED Western Region Convention. Yet, he pointed out, the large buyer regularly finds electrical distributors and contractors offering below list prices without solicitation, instead of stressing superior services.

Among the supplier's services most valuable to the large general contractor and industrial buyer are, said Rugg: prompt deliveries that give the contractor an opportunity to keep his crew working; packaging (when possible) of different brands to fit a production schedule and same-time delivery at a better price; help on devising alternate specifications whereby the distributor informs the general contractor of new products or new designs that are suitable for the job at a better price and performance; an equitable returned goods policy that takes care of the surplus of products that may arise from a change of specifications during the progress of the construction job.

From his experiences in the overseas department of Bechtel, Rugg outlined the current situation of competition between the United States and foreign countries in the world market for electrical goods.

"It is interesting to note," he said, "that the awakening to this realistic competition has stimulated many U.S. companies to a higher efficiency, better products and services, lower prices and aggressive salesmanship. When confronted with inequities of trade balance, countries can always resort to a variety of restrictions, such as tariffs, quotas, embargoes, currency exchange limitations, preferential tax laws and 'favored nation' agreements. However, the United States has not been a strong protectionist nation, nor can it be, with its role in the world today. This means that all of us—partners in business—have to think our own way out and stay in business.

"As gross national products of the Western world continue to grow, potential demand also grows for advanced products which American industry can provide," Rugg concluded. "Price and delivery are not always the controlling factors (in buying) electrical equipment."

Utility Partners Have An Extra Job . . .

Roy Vernstrom, ass't. gen. mgr.
Pacific Power & Light Co.,
Portland, Ore.

"SELLING for the long haul" was more than a title for the talk of Roy Vernstrom, Pacific Power & Light Co., which concluded the Customers' Day addresses. It indicates the peculiar dual role which the electric generating utility plays as a partner. Not only does the utility service the manufacturers, the distributors and their customers—thus making possible the electrical industry—it takes on an added responsibility for much of the research and development which creates the future markets and future sales opportunities, he stated.

The utilities have the job of looking years ahead, working years ahead, and investing years ahead, so that the rest of the industry will have enough customers to sustain its growth, Vernstrom pointed out.

Unlike the other partners, the utilities can't store their product, they can't put it on a shelf until customers call, and they can't export. Therefore they must develop markets in their areas, and in doing so they are creating an outlet for the goods and services of the other customers in the electrical industry partnership.

The Dealer in the Next Decade . . .

Laurence Wray, editor
Electrical Merchandising Week

SWEEPING changes in the retailing of electrical appliances and housewares were predicted by Laurence Wray, editor of Electrical Merchandising Week, a McGraw-Hill publication, in his Customers' Day talk.

After outlining the impact of the discount house, the catalog house, rise of the shopping center, birth of the highway store, "closed door" discounters and giant retailing chains on the traditional dealer, Wray went on: ". . . in the very near future, some sort of 'agonizing reappraisal' of our traditional place in the retailing of . . . appliances . . . must be made, if we are to survive the competitive pressures of the giants." How to survive? Wray recommended attention to new products, sounder pricing, cultivating builder business and fuller service to present customers.

What's In a Trade Show?

KEEPING abreast of the trade is part of a local industry show. Nick Gorab (with catalog), Jerry Madden (glasses) and George Nassor, far right, listen as manufacturer's salesman describes new product feature at Trenton show.

GETTING together to discuss industry problems is a common feature which this type of show presents. Madden and Nassor are joined by local Trenton distributor Bill Griffith for a brief session of distributor shop-talk.

TRYING out the new products is one of the more outstanding features of an industrial trade show. Here Nassor and Gorab (back to camera) look over new lighting fixtures that were presented at the exposition.

Local show is good sales medium.

DO you attend local industry shows? If not, why not? Here are several good reasons why you, as an electrical wholesale distributor, should attend, and how you can get the most out of it.

• **"To keep abreast of the trade,"** is one of the many reasons why George Nassor, vice president of Nassor Electrical Supply Co., Hackensack, N.J., attends local electrical industry shows. And a good example of "keeping abreast of everything" was accomplished by his attendance at the recent 3rd Trenton Electrical Exposition, held in Trenton, N.J.

• **"To see the new products that the manufacturers have on display,"** was one of reasons given by outside salesman Nick Gorab who accompanied Nassor to the show. "The product displays show the real thing and present a better picture than the catalogs," Gorab said.

• **"It's one of the best shows,"** was the reason expressed by local distributor Jerry A. Madden, secretary-general manager, of TAB Electric Supply Co., why any distributor would be interested in it and would gain the most from it. Madden was on hand to greet Gorab and Nassor at the show, as a representative of the reservations commitee. "It took a lot of planning and coordination, and we think we have a pretty good show," Madden told visiting members of the industry.

Some 1,500 persons from all phases of the electrical industry were on hand to see motors, controls, lighting, wiring devices, and heating applications, during the three-day event. Among those distributors attending, was Bill Griffith, president, Griffith Electric Supply Co., Trenton. Griffith likes to attend the electrical shows to meet with other industry members, particularly those in the local area, to discuss pertinent industry problems.

• **"This type of show gives all of us in the industry the opportunity to talk openly on industry-wide issues and to find solutions to some of our problems,"** Griffith said. He indicated that it was the common meeting ground of manufacturer, salesman and distributor.

• **"To see what the competition has to offer,"** was another advantage expressed by Nassor (This is regarding a competing manufacturer's line). "This enables us to plan so that we may sell round it, or if it is judged to be of interest, allows us the opportunity to consider taking on the line," he added. He also noted that an electrical show also gives industry members the chance to discuss "gripes."

• **Co-ordinated Show**—The Trenton exposition was sponsored by the MUIDA division of the Central Jersey Electrical League. This division (the name signifies Manufacturer-Utility-Inspector-Distributor-Agent) has been a cohesive factor in coordinating the promotional activities of its membership. The league function was clearly defined by a spokesman, "The expanding industrial—commercial progress of the Trenton area indicates beyond question that the electrical industry must be prepared to meet vastly increased demands for its materials, products, and its designing and installation service. Such demands can only be met by a unified and cooperative group of all phases of the electrical industry." This he noted has been fulfilled by the MUIDA division of the league.

These are only a few of the many contributions that a local electrical show offers to the industry, as a whole, and to the electrical wholesale distributor in increased sales and profits.

Pinpointing Profitability Through Distribution Cost Analyses

TODAY, as never before in the history of the electrical distribution industry, the profit-squeeze is on.

Customers are demanding better services than ever offered in previous periods but at prices which leave little room for the distributor to profitably furnish the demanded services.

Operating costs have increased year after year and will continue to do so during the forseeable future.

The ever-increasing complexity of product lines, coupled with the recent trend on the part of many contractor, industrial and retail customers to reduce working inventories to an absolute minimum, have forced distributors to increase investment in warehouse stocks.

Small repetitive orders are fast becoming the rule rather than the exception.

If the existing pattern of depressed margins, constantly increasing expense levels and higher investment requirements continues at its present pace, the electrical distribution industry may soon be fighting for its very existence in the nation's economy. One of the most decisive factors leading to the present dilemma is the inability of financial reporting systems currently used by the industry to pinpoint the areas directly responsible for profit seepage.

Historically, financial data available to management of the electrical distribution industry has been restricted to the barest of minimums. Statistical reporting techniques have not changed substantially since the early beginnings of the industry. After almost 40 years of continuity in the distribution channel, the typical distributor is still forced to base his pricing, stocking and other management decisions upon the same pauperism of financial information which existed when he originally opened his doors for business.

Generally, sales, cost of sales, and gross margin amounts are accumulated by product line. Business costs are accumulated in various so-called "natural" expense accounts; i.e. salary and wages, rent, insurance, utilities postage, stationery, transportation, etc. Other than a balance sheet which reports the ending balances in the asset and liability accounts, the distributor is forced to rely upon gross margin dollars and ratios in order to measure the profit contribution of each of the various product lines sold by him. At present there is little or no effort to relate those factors which govern the generation of natural expenses to the products which cause the cost generation.

It is the purpose of this 12-page special report to outline some of the basic concepts of cost measurement and to describe a suggested technique which will enable the typical electrical distributor to perform a distribution cost analysis of his own business.

This summary pinpoints the profits and losses produced

NOTE: High Gross Margin Ratios . . .

PROD. LINE	SALES BILLED	GROSS MARGIN AMOUNT	GROSS MARGIN % to SALES	STORAGE	HANDLING	CONSUMER GOODS SALES	CONSUMER GOODS ADV.
1	$257 000	$ 50 000	19.5%	$ 2 099	$ 2 990		
2	108 000	15 000	13.9	630	416		
3	745 000	185 000	24.8	7 585	12 134		
4	681 000	76 000	11.2	3 278	4 370		
5	147 000	31 000	21.1	1 023	1 391		
6	133 000	25 000	18.8	366	312		
7	157 000	32 000	20.4	847	1 065		
8	474 000	85 000	17.9	1 842	4 214	$25 581	$11 945
9	445 000	75 000	16.9	1 503	3 474	22 572	9 606
10	853 000	106 000	12.4	2 532	4 424	31 902	12 269
	$4000 000	$680 000	17.0%	$21 705	$34 790	$80 055	$33 820

CLOSELY corresponding to the actual figures, this analysis of product line profitability (which is also published in proper

Pinpointing Profitability (cont.)

First, Define the Functional

IN its simplest terms, distribution cost accounting may be defined as a financial tool for analyzing and reporting cost data by product line, by type of customer and by order size in order to permit an accurate evaluation of the actual profit contribution of the various segments of the business. One of its main purposes is to point out those product lines and customer groups which are not contributing to the overall business so that necessary corrective measures may be instituted. Distribution cost accounting is not, and never will be, an exact science. It does, however, represent a significant improvement over present financial concepts and one which has been successfully innovated in many areas of the nation's distribution system.

In past years, basic managerial decisions relating to order acceptance have, by necessity, been related to manufacturers' recommended prices and gross margin ratios. Decisions based upon price and gross margin ratios may tend to attain the eternal objective of all salesmen, that of increased volume, but they either ignore costs or are predicated upon the false assumption that costs are affected by and related to selling price. In actual practice, costs are seldom affected by the sales dollars of an individual transaction; they are affected, however, by the fact that a transaction occurred and by the physical characteristics of the items included.

For example, it would cost no more to process an invoice for a quantity of 5,000 feet of conduit than it would for a quantity of 50 feet. In each instance, the identical editing, pricing, billing and stock control functions are performed. By the same token, it costs the same to warehouse and handle standard models of appliances as it does for deluxe models which sell at a much higher price. Obviously, if the present trend toward reduced profits is to be reversed, managerial decisions must give recognition to the impact of costs.

One of the most vital cost relationships which needs to be disclosed is that which exists between product lines and expenses. The industry cannot attain maximum profit potential, or even provide an acceptable return on its investment, until costs can be accurately allocated to the product families sold to its customers. Cost analyses constitute the bridge which will enable management to base order acceptance policies upon incurred costs and thus insure profit margins on all transactions.

The services of a trained distribution cost accountant would obviously be an outstanding asset to the performance of a cost analysis. Such an individual, however, is not a basic requisite. A capable accountant who has an intimate knowledge of the business and who possesses an analytical mind should be well qualified to perform a cost analysis of product profitability.

There are several accounting techniques which may be used to accurately measure costs. The one which appears to be best suited to the electrical distribution industry is known as the "functional" approach to expense allocation. This type of analysis is accomplished by (1) identifying work centers or functions, (2) assigning all operating expenses to the identified functions, (3) measuring the output of the functions in terms of work units, and (4) relating the output work units to product lines.

The easiest and most satisfactory manner in which to identify cost centers is to define the natural organizational structure of a business component. The best suited functional segregation is generally that which already exists as it has evolved from the conduct of daily business. A typi-

by a distributor's product lines

. . . Are No Guarantee Of Profitability

FUNCTIONAL EXPENSE						
S & A SALES	S & A ADV.	ORDER PROCESSING	TRANS. AND OTHER EXP.	TOTAL EXP.	INCOME BEFORE TAXES AMOUNT	% TO SALES
$ 20 981	$ 516	$ 47 416	$ 2 619	$ 76 621	($26 621)	(10.4%)
6 294	217	5 124	1 177	13 858	1 142	1.1
77 631	1 495	82 469	7 084	188 398	(3 398)	(0.5)
31 892	1 366	11 902	7 654	60 462	15 538	2.3
13 008	295	9 763	1 467	26 947	4 053	2.8
10 191	267	2 761	1 366	15 563	9 437	7.1
13 428	314	37 242	1 581	54 477	(22 477)	(14.3)
		19 196	4 921	67 699	17 301	3.7
		3 889	4 681	45 725	29 275	6.6
		3 373	9 450	63 950	42 050	4.9
$173 725	$4 470	$223 135	$42 000	$613 700	$66 300	1.7%

sequence as Exhibit D on page 70) is shown here to point up what such a distribution cost analysis can reveal.

Structure to Identify Cost Centers

cal electrical distributor performs three basic activities: (1) warehousing, (2) selling and (3) order processing. Thus, these three functions, with some amplifications, constitute the principal work centers which should be identified and measured.

Warehousing consists of two separate and distinct activities which are not inter-related, i.e. storage and handling. Storage costs are incurred in direct proportion to the amount of warehouse space required to stock the products offered for sale. On the other hand, handling costs are determined by the physical effort required to receive and ship merchandise. During any given period, a product line would incur storage costs by virtue of its presence in the warehouse; but unless movement exists, i.e. receipts and shipments, it would not incur handling expense. Therefore, for cost measurement purposes, the warehouse activity must be further segregated between storage and handling.

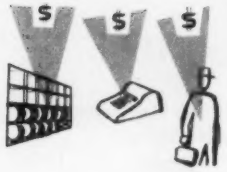
The second basic distributor activity, that of selling, may also be sub-divided into specific functions for purposes of more accurate cost measurement. A suggested segregation of this activity would include consumer goods sales, consumer goods advertising, supplies and apparatus sales, and supplies and apparatus advertising functions. A functional segregation of this nature would reflect the normal organizational structure of an electrical distributor and would greatly facilitate the mechanics of performing a cost analysis.

The order processing activity includes such functions as pricing, editing, order service, billing, stock maintenance, credit and collection and accounting. A somewhat higher degree of accuracy may be realized by segregating the activity into its specific functions than would be obtained by using a single output measurement for the entire activity. However, it is unlikely that greater accuracy in this area would be meaningful when consolidated with the costs incurred in the other basic activities. Generally, cost trends would not appreciably change, nor would accurate evaluation of results be endangered by grouping all of the various order processing outputs into one function. Therefore, it is suggested that all order processing outputs be consolidated into one function for purposes of cost measurement. However, if the organizational structure of the distributor is of sufficient magnitude as to warrant a sub-division of the order processing function, then obviously it should be made.

An additional function entitled transportation and other expenses should be used for accumulation of such expenses as incoming and outgoing transportation, cash discounts allowed and received, and other miscellaneous income and expense items which are not directly related to one of the work centers previously listed. If the expense elements included in this category are of sufficient magnitude, the use of separate functions would be desirable. In either case, the bases used to allocate such costs to product lines will vary with the nature of each cost element.

To summarize, the basic functions which should be selected for measurements are:

- Warehouse storage
- Warehouse handling
- Consumer goods sales
- Consumer goods advertising
- Supplies and apparatus sales
- Supplies and apparatus advertising
- Order processing
- Transportation and other expenses



Pinpointing Profitability (cont.)

Second, Assign Operating Expenses To Functions

THE next step in a distribution cost analysis is to assign all operating expenses to one or more of the functions. The assignment of costs to functions is, of course, governed by (1) the nature of the expense and (2) the functional use to which the expense is put. Exhibit A illustrates how a typical operating expense report would appear after allocation of expenses to functions.

The functional assignment of salary, overtime, commission, and payroll taxes is determined by the nature of the work performed by each employee in the organization. For example, the salary expense of warehouse employees is assigned to the handling function; the salary expense of the office manager, price and edit clerks, billing typists, credit and collection employees, etc., is assigned to the order processing function.

The expense of a consumer goods salesman would be charged to the consumer goods sales function whereas, the expense of a supplies and apparatus salesman would be included in the supplies and apparatus sales functional costs. In some instances, it will be necessary to depend upon estimated time allocations in order to segregate the expense of those individuals who perform work in more than one function.

A secretarial employee may serve both the consumer goods and supplies and apparatus sales managers, or a warehouseman may spend half of his time delivering orders.

The salary expense of the entrepreneur should be charged to all functions as determined by his estimated time allocation.

Overtime, commissions and payroll taxes are assigned to the various functions in proportion to the salary expense of the applicable employees.

The advertising function includes actual advertising expenditures as well as the salary and overhead expense of those employees engaged in conducting advertising and promotion programs. Generally, no difficulty should be encountered in segregating advertising expenditures between consumer goods and supplies and apparatus, since most expenditures are made in conjunction with manufacturer-supported cooperative advertising programs which require the distributor to maintain extensive records to qualify for factory refunds. Assignment of salary and related expenses to the advertising functions would be made in accordance with job assignment.

Most distributors maintain records of traveling and entertaining expenditures by individual for control purposes. Reference to such records will facilitate the functional allocation of these expenses.

Exhibit A

EXPENSE	TOTAL
SALARIES	$348 700
OVERTIME	5 000
COMMISSIONS	40 000
PAYROLL TAXES	28 000
ADVERTISING & PROMOTION-NET	20 000
TRAVELING & ENTERTAINING	49 500
TELEPHONE	12 000
MEMBERSHIPS & CONTRIBUTIONS	1 200
RECEIVABLE LOSSES	10 000
STATIONERY AND SUPPLIES	14 000
POSTAGE	5 200
UTILITIES	6 500
BUILDING REPAIRS	2 700
RENT OR BLDG. DEPRECIATION	17 500
DEPRECIATION ON FURN. & FIXT.	5 500
INSURANCE	3 000
STATE & LOCAL TAXES	2 900
TRANSPORTATION ON PURCHASES	15 000
TRANSPORTATION ON SALES	25 000
CASH DISCOUNTS ALLOWED	40 000
CASH DISCOUNTS EARNED	(43 000)
OTHER INCOME AND EXPENSE	5 000
	$613 700

Telephone expense consists of the rental charge for extensions and switchboard equipment in addition to toll charges for long distance calls. Equipment rental fees may be functionally allocated on the basis of extension usage. For example, if the order processing function utilizes 10 out of a total of 20 extensions, then it should bear 50% of the rental portion of the telephone expense. Toll charge expense should be allocated in accordance with the functional assignment of the individuals incurring the expense. If individual analysis of toll charges is not available in existing voucher records, a special study conducted for a period of three months would constitute an adequate basis for expense allocation.

Functional allocation of membership and contribution expense depends upon the nature of each item included in this account. Membership dues for trade organizations should be assigned to the applicable sales function. Major contributions to community organizations should be allocated to all functions in proportion to the aggregate number of employees in each since such donations are generally determined on a per employee basis.

As previously stated, the credit and collection activity is included in the order processing function. Therefore, cost elements such as receivable losses, credit service expense, legal fees incurred for collection of accounts, etc., should be assigned to the order processing function. However, if receivable losses represent a major expense element, an analysis of individual write-offs should be made to enable a further segregation of such losses as between consumer goods and supplies and apparatus.

Stationery and supplies expense includes items such as bill sets, credit and collection statements, letterheads, promotional material and a host of other typical office supplies. Because of the difficulty which would be encountered in performing a specific analysis of this account, it is suggested that reasonable estimates be used for purposes of functional allocations. With respect to postage, estimates based upon normal usage should constitute a

ALLOCATION OF OPERATING EXPENSES TO FUNCTIONS

FUNCTIONS							
STORAGE	HANDLING	CONSUMER GOODS SALES	CONSUMER GOODS ADV.	S & A SALES	S & A ADV.	ORDER PROCESSING	TRANSP. AND OTHER EXP.
	$30 000	$40 000	$ 7 500	$100 000	$1 200	$170 000	
	1 500					3 500	
		15 000		25 000			
	2 240	3 910	535	8 890	85	12 340	
			18 000		2 000		
		14 000		33 000		2 500	
		4 000	900	3 200	100	3 800	
	50	400	100	325	25	300	
						10 000	
	250	500	4 750	1 000	500	7 000	
		200	1 000	300	350	3 350	
$4 455		225	225	185	35	1 375	
1 850		95	95	75	15	570	
12 000		600	600	500	100	3 700	
1 000	500	500	50	400	25	3 025	
1 500	200	225	15	250	10	800	
900	50	400	50	600	25	875	
							$15 000
							25 000
							40 000
							(43 000)
							5 000
$21 705	$34 790	$80 055	$33 820	$173 725	$4 470	$223 135	$42 000

satisfactory basis of expense allocation. In the event that postage represents a major expense element, it may be desirable to conduct a specific study of usage for a representative period.

Facility expense such as rent, building depreciation, repairs and utility costs represents a fixed occupancy charge for storage and office areas. A rough floor plan of the entire building showing inside dimensions should be prepared and total occupied space calculated for each function. In order to adjust for the higher cost of renting and servicing a square foot of office space as compared to a square foot of warehouse space, a factor which best reflects this cost differential should be applied to the total office area.

Many authorities recommend a three-to-one weighting of office space as compared to warehouse space. The unit cost per square foot of occupied space is obtained by dividing the fixed occupancy charge by the aggregate square feet available as adjusted by the office weighting factor. Allocation of fixed occupancy expense is accomplished by multiplying each functional area by the unit square foot cost. An example of this calculation is shown below:

Warehouse area		30,000	
Consumer goods sales	500		
Supplies & Apparatus sales	250		
Order processing	4,250		
Total office area		5,000	
Total building		35,000	
Annual rental or depreciation expense			$22,500
Office area (5,000 sq. ft.) x 3 (weighting factor)	=	15,000	
Warehouse area		30,000	
Equivalent accountable space		45,000	

$22,500 ÷ 45,000 sq. ft. = $.50 per sq. ft.

Function	Area	Cost per Sq. Ft.	Total Cost
Storage	30,000	$ .50	$15,000
CG sales	500	1.50	750
S & A sales	250	1.50	375
Order processing	4,250	1.50	6,375
	35,000		$22,500

Functional assignment of depreciation on furniture and fixtures will vary with the usage of the equipment. If detailed records of such items are not readily available, expense assignment should be based upon estimated usage. Allocation of insurance expense should be made in accordance with the nature of the insured items. Building insurance, for example, would be allocated in the same manner as occupancy expense. Inventory insurance should be assigned to the storage function.

Allocation of workmen's compensation insurance would be in direct proportion to the functional assignment of employees. Similarly, functional classification of taxes other than federal income would vary with the nature of the individual taxes. Property taxes would be assigned in accordance with the location or usage of the taxable assets.

In certain instances, it may be desirable to assign expenses to functions which do not directly incur or control the expense in order to gain greater accuracy in the ultimate allocation to product lines. The reason for this action is that the output measurement of one function may be more closely related to the nature of a specific expense than that of other functions, and hence will constitute a more accurate basis of allocation. In this connection, it is suggested that sales and franchise taxes be assigned to the consumer goods and supplies and apparatus sales functions even though such taxes are not normally considered a direct sales expense.

Third, Measure the Output

- Using floor space rather than cubic space as a basic measurement offers several advantages.
- Items should be selected which are representative of product families and account for the bulk of the handling activity.
- A valuable by-product of the use of handling factors to allocate expenses is the measurement of warehouse productivity.

UPON completion of the functional assignment of all expenses, the next step in a distribution cost analysis is to measure the output of each function and then to relate the output to various product lines serviced by the function.

As previously stated, the warehouse storage function includes only those building and utility costs which are applicable to the warehouse area. A warehouse, as an integral part of the distribution channel, neither produces nor processes; its sole purpose is to store merchandise which is purchased from suppliers prior to shipment to customers. In effect, a warehouse furnishes customers with continuing accessibility of needed stocks. An unoccupied warehouse furnishes no economic service which can be sold for an economic value. Hence, the output work unit of a warehouse is its occupied space. Similarly, the basis of allocation of the functional expenses to product lines is the proportionate area occupied by each line. Occupied space can best be defined as the average annual square footage of floor area required to store the various items included in each product line.

For example, if all conduit products were normally stored in one bay, then the square foot area of that bay would represent the proportionate charge to conduit. On the other hand, if two bays were assigned to fans for six months, but were used to store other products during the remainder of the year, the average annual space would be calculated as one bay.

A problem which frequently arises relates to the measurement of small items which are stored on multi-shelved racks such as clocks and wiring devices. In these instances, the assigned floor area would be the aggregate of occupied shelf space divided by the number of shelves in the rack.

By using floor space as the basic measurement of the warehouse storage function as opposed to cubic space, products which cannot be safely stacked are properly penalized for their poor physical characteristics. For exam-

Exhibit B **CALCULATION OF PRODUCT LINE HANDLING FACTORS**

PRODUCT LINE No. 1

ITEM	COST OF SALES AMT.	COST OF SALES %TOTAL	AVERAGE SHIPMENT	TIME INTERVALS	UNIT COST	COST OF AVER. SHIP.	EQUALIZING FACTOR	HANDLING FACTORS	WEIGHTED HANDLING FACTORS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Item No. A	$10 000	20%	2	2	$10.00	$ 20.00	5.0	10.0	2.0
Item No. B	20 000	40	5	3	6.00	30.00	3.3	10.0	4.0
Item No. C	5 000	10	5	4	40.00	200.00	.5	2.0	.2
Item No. D	5 000	10	100	4	.50	50.00	2.0	8.0	.8
Item No. E	10 000	20	20	6	2.00	40.00	2.5	15.0	3.0
	$50 000	100%							

COMPOSITE HANDLING FACTOR 10.0

# of Functions and Relate It to Lines

ple, reels of heavy wire are generally stacked one high, whereas refrigerators may be safely stacked four high. Since both items occupy approximately the same area of floor space, each refrigerator would bear only one-fourth of the storage charge allocated to a reel of wire. The additional charge to wire reflects a rather costly aspect of the commodity, namely, the wastage of overhead space.

The use of occupied area as the expense allocation basis has the added advantage, in effect, of assessing all products proportionately for such non-storage areas as aisle space, receiving and shipping docks, packing area, warehouse office space, etc. While not contributing to the prime purpose of storage, areas of this type are a requisite to the operation of any warehouse and should be allocated to product lines in direct proportion to the space occupied by each line.

In the past, most measurements of the warehouse handling function have been based upon the number of warehouse employees as related to dollars of stocks shipped from the warehouse. However, measurements of this nature do not reflect the variances in effort which result from the characteristics of the products being handled.

For example, a shipment of lamps valued at $10.00 would be far more time consuming to handle than a vacuum cleaner which sells for approximately $40.00. With respect to the lamp shipment, a case must be opened, the proper quantity selected and carried to the packing bench, an over-pack prepared which is carried to the shipping area and a shipping label attached. A vacuum cleaner need only be selected and carried to the shipping area for attachment of a shipping label. Therefore, an accurate measurement of the handling function must identify the specific steps performed in the handling process. The procedure suggested to accomplish this objective is based upon stop-watch observations of average shipment quantities.

A typical electrical distributor may stock upwards of 10,000 items. Obviously, it would be impossible to study applicable handling effort for each and every part. Hence, the first step is to select those items which are representative of entire product families and which account for the bulk of the handling activity. The next step is to determine for each item to be measured the average quantity shipped during the period under study. Handling effort is then obtained in terms of time intervals for each shipment of the pre-determined average quantity. A composite time factor is calculated for each product line which is related to total shipments from stock during the period under study. Handling expense is allocated to product lines in accordance with the ratio that handling factors for each product line bears to aggregate handling factors.

Calculating Handling Factors

Exhibit B illustrates the manner in which handling factors are calculated for a single commodity line. The items to be studied are listed in column (1), the annual cost of sales of each is listed in column (2), and the average quantity shipped is shown in column (4).

Generally, products selected will represent about 5% of the total items included in the product line and will account for about 50% of the cost of sales volume. The items to be included in the sample are determined by reviewing stock cards or other available inventory control records. A qualified stock maintenance supervisor ought to be able to limit the review of stock cards to approximately 10% of the items stocked. Further analysis of the cards included in this 10% category will disclose the high volume items which account for 40% to 60% of the product line cost of sales.

Annual cost of sales as shown in column (2) is obtained by multiplying the total number of units shipped by the average cost per unit. The average quantity shipped, shown in column (4), is determined by dividing the total number of units shipped by the number of shipments made during the year. For example, a total of 1,000 units of Item No. C at a unit cost of $10.00 each [see column (6)] were shipped during the year. Since there were 500 shipments, the average sale was for 2 items.

Determining Time Interval

The next step is to determine the time interval required to select, pack and ready for shipment the average quantity of each of the items selected for Product Line No. 1. To perform this step, the services of a warehouseman who is familiar with the location of all stocks and who is capable of working at a constant pace is required.

The warehouseman should be instructed to start at a given point, generally the point at which shipping papers are received in the warehouse, and complete all the actual steps required to select, pack, and ready for shipment each of the items included in the sample in the quantity which has been determined to be the average shipment. The time required for each item, as measured by a stop watch, is recorded in column (5). Item A, for example, required two minutes; Item B, three minutes, and so on.

A composite handling factor which is representative of the entire product line is then calculated. This calculation will be facilitated by expressing the time interval recorded in column (5) in terms of a common base. A suggested base is one which expresses handling factors per units of $100 of cost of sales. To accomplish this conversion, the cost of sales per average shipment is shown in column (7) [column (4) multiplied by column (6)]. The equalizing factor, or the number which when multiplied by the amounts shown in column (7) will result in multiples of $100, is shown in column (8). With respect to Item A, $100 divided by $20.00 (cost of sales per average shipment) equals five; therefore, the number five is the equalizing factor shown in column (8). In the case of Item C, the equalizing factor is 0.5 ($100 ÷ $200). The time intervals shown in column (5) are then multiplied by their respective equalizing factors and the resultant figure shown in column (9).

For example, the time interval of two minutes applicable to Item A when multiplied by the equalizing factor of 5.0 results in an adjusted handling factor of 10. Restated, a total of 10 handling factors is required to select, pack and prepare for shipment each multiple of $100 of Item A stated at cost of sales value. In the case of Item C, a total of two handling factors is generated by each shipment of $100.

Continued

Exhibit C

APPLYING OF TOTAL HANDLING FACTORS

PRODUCT LINE	COMPOSITE HANDLING FACTOR	ANNUAL COST OF SALES		TOTAL HANDLING FACTORS			
				WAREHOUSE A		WAREHOUSE B	
		WAREHOUSE A	WAREHOUSE B	FACTORS	% TO TOTAL	FACTORS	% TO TOTAL
1	10.0	$100 000	$ 107 000	10 000	21.4%	10 700	5.5%
2	3.1	40 000	53 000	1 240	2.6	1 643	.8
3	15.0	80 000	480 000	12 000	25.6	72 000	37.1
4	5.0	70 000	535 000	3 500	7.5	26 750	13.8
5	8.3	90 000	26 000	7 470	15.9	2 158	1.1
6	2.0	60 000	48 000	1 200	2.6	960	.5
7	5.9	50 000	75 000	2 950	6.3	4 425	2.3
8	7.5	15 000	374 000	1 125	2.4	28 050	14.5
9	6.5	50 000	320 000	3 250	6.9	20 800	10.7
10	4.1	100 000	647 000	4 100	8.8	26 527	13.7
		$655 000	$2665 000	46 835	100.0%	194 013	100.0%

25% of Warehouse Activity Is Devoted To Handling-in; 75% to Handling-out

In order to arrive at a composite handling factor which is representative of the entire product line, it is necessary to weight the adjusted handling factors shown in column (9) by the percentage that the annual sales of each item bears to the total sample. Referring back to column (3), it can be noted that the annual cost of sales for Item A ($10,000) represented 20% of total cost of sales included in the sample. Therefore, the composite handling factor should reflect a weighting of 20%, or a quantity of two factors, for Item A. By making this calculation for each of the items included in the sample, a composite handling factor of 10 is obtained. This means that for each $100 shipped of Product Line No. 1 at cost of sales value, the handling function expends 10 handling factors.

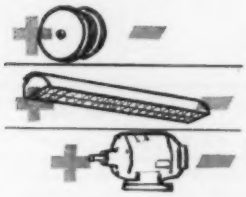
Applying Composite Handling Factors

Composite handling factors are calculated in the same manner for all other product lines. The application of composite handling factors to annual stock cost of sales for calculation of total handling factors is illustrated in Exhibit C. Assignment of handling expenses to product lines is based upon the proportionate handling factors generated by each line.

The valuable by-product of the use of handling factors to allocate expenses is the measurement of warehouse productivity. By relating the total number of factors generated at each warehouse location to the number of employees required to produce the factors, a ratio of factors per employee may be calculated. A comparison by location of these ratios will indicate relative productivity in a multi-warehouse operation.

Obviously, the accuracy of composite handling factors as an expression of expense generation will depend almost exclusively upon the care which is exercised in selecting items as representative of product lines. In some instances, such as conduit, five or six items will constitute as much as 80% of the volume. In those instances in which a product line consists of hundreds of small items, each of which constitutes only a small fraction of the over-all volume, it is suggested that a comparatively small number of items which are truly representative of the whole be selected for sampling.

An additional point which requires clarification pertains to handling-in expense; that is, the cost of receiving and storing merchandise. Warehouse time studies of several electrical distributor operations have indicated that approximately 25% of the total warehouse activity is devoted to handling-in while 75% is devoted to handling-out. This ratio results, of course, from the standard warehouse practice of receiving goods in large quantities and shipping in small quantities. By restricting the measurement of the handling function to handling-out activities, the assumption is made that handling-in effort is expended in the same ratio as handling-out effort. Holding in mind the 25%-75% relationship and the economic fact of life that warehouses must ship merchandise that is received, and vice versa, this appears to be a reasonable assumption.



Final Step Is To Summarize Profits And Losses by Lines

• A distribution cost analysis can point the way to corrective action that will result in improvement of sales direction, institution of appropriate pricing policies, reduction of high expense areas, rise in employee productivity.

IN determining the output of the consumer goods and supplies and apparatus sales function and relating this output to product lines, an objective appraisal of the aims of a sales organization must be made. The aim of a factory-oriented sales organization may be described as one which attempts to attain the highest market penetration consistent with the volume and expense limitations of the productive facilities. A distribution sales organization, however, has the added objective of converting to dollars and cents the economic values of time and place which a distributor adds to merchandise.

This difference in objectives is emphasized by the differing methods of salesman's compensation; most factory salesmen are paid on a salary basis whereas the electrical distribution industry practice is to remunerate salesmen on a straight commission basis, generally a flat percentage of credited gross margin. Having recognized gross margin dollars as the output of a distributor-type sales function, it is logical, therefore, to utilize gross margin dollars as the basis of expense allocation.

A further verification of the use of gross margin dollars is found in the product scope generally assigned to a distributor salesman. Both consumer goods and supplies and apparatus salesmen are full-line salesmen within their respective areas. Both classes of salesmen will offer for sale every item included in their respective product scopes to each customer in their assigned territory. Their sales efforts are directed towards satisfying the over-all needs of their customers rather than attempting to create a need for a specific product.

Obtaining gross margin dollars by product line should present little or no problem since most accounting systems provide for the reporting of this data on a monthly basis. The only restriction, of course, is the number of product lines for which separate statistics are maintained. If a further segregation than that which is regularly reported is desired, a special analysis of sales invoices must be made.

For example, in the event that sales statistics for all major appliances are reported as one product line, greater meaningfulness will be added to the cost analysis if the over-all line is reclassified by refrigerators, home laundry, ranges, etc. Having summarized gross margin dollars by product line for the period under study, the ratio of gross margin for each line to total gross margin represents the allocation basis to be used in assigning expenses of the consumer goods sales function to each line. If, for example, portable appliances accounted for 5% of total consumer goods margin, then 5% of consumer good sales functional expense should be allocated to the portable appliance product line.

As stated above, most advertising expenditures are made in connection with manufacturers' advertising programs. This is particularly true in the consumer goods area in which most distributors maintain detailed records of dealer expenditures, credits to dealers and refunds from suppliers. If periodic reports summarizing advertising transactions by product line are not available, an analysis of source documents, that is, details of distributor expenditures and suppliers' reimbursements, must be made. Gross advertising expenditures, that is, distributor expenditures excluding suppliers' credits, should serve as the basis of allocation of such overhead expenses as the advertising manager's salary and payroll taxes, stationery and supplies, postage, etc. Gross expenditures are used for this purpose since the effort of an advertising activity with respect to product lines can generally be measured by the amount of money spent for each line.

Manufacturers' refunds, however, reflect the advertising policy of the manufacturer and may well include special promotional funds over and above the regular allowance allowed distributors on their purchases. Hence, the net cost to a distributor for conducting an advertising program on a specific line may be next to nothing even though intensive efforts were directed toward carrying out an extensive manufacturer-supported program. Thus, the amount of functional expense allocated to each of the various consumer goods product lines consists of actual gross expenditures plus an equivalent pro-rata share of applicable overhead cost less actual suppliers' credits.

The allocation of supplies and apparatus sales functional expenses is accomplished in manner similar to that used for consumer goods, that is, by use of gross margin dollars. In this area, however, additional sales emphasis may be given to certain product lines, but not to others. For example, some distributors employ sales specialists for such lines as lamps, lighting and apparatus. Generally, these individuals are paid on an override commission basis; that is, they receive a flat percentage of the gross margin earned by all other salesmen on their respective lines.

If situations of this nature exist, the distribution cost accountant, in collaboration with the applicable sales manager, should analyze the contribution made by these specialists. Such analysis may disclose that the efforts of sales specialists supplant corresponding efforts on the part of the field sales personnel and that gross margin dollars represent an accurate basis of expense allocation. If, however, the services of sales specialists supplement the services of field personnel, their salary and overhead expense should be treated as an additional charge to the applicable product line over and above the expense assignment of the field sales force.

Financial records of supplies and apparatus advertising expenditures normally are not maintained in the same detail as are consumer goods expenditures since most manufacturers of such products do not support cooperative advertising programs. Generally, supplies and appa-

Exhibit D — ANALYSIS OF

PROD. LINE	SALES BILLED	GROSS MARGIN AMOUNT	GROSS MARGIN % to SALES	STORAGE	HANDLING	CONSUMER GOODS SALES	CONSUMER GOODS ADV.
1	$257 000	$ 50 000	19.5%	$ 2 099	$ 2.990		
2	108 000	15 000	13.9	630	416		
3	745 000	185 000	24.8	7 585	12 134		
4	681 000	76 000	11.2	3 278	4 370		
5	147 000	31 000	21.1	1 023	1 391		
6	133 000	25 000	18.8	366	312		
7	157 000	32 000	20.4	847	1 065		
8	474 000	85 000	17.9	1 842	4 214	$25 581	$11 945
9	445 000	75 000	16.9	1 503	3 474	22 572	9 606
10	853 000	106 000	12.4	2 532	4 424	31 902	12 269
	$4000 000	$680 000	17.0%	$21 705	$34 790	$80 055	$33 820

Exhibit E — ANALYSIS OF

PRODUCT LINE	SALES BILLED	GROSS MARGIN	STORAGE	HANDLING	CONSUMER GOODS SALES	CONSUMER GOODS ADV.
1	$ 9.00	$ 1.75	$ .07	$ .10		
2	35.00	4.86	.20	.14		
3	15.00	3.72	.15	.25		
4	95.00	10.60	.46	.61		
5	25.00	5.27	.17	.24		
6	80.00	15.03	.22	.19		
7	7.00	1.43	.04	.05		
8	41.00	7.35	.16	.36	$ 2.21	$1.03
9	190.00	32.02	.64	1.48	9.64	4.10
10	420.00	52.19	1.25	2.18	15.71	6.04

Gross Margin Ratios Can Be Misleading

ratus advertising expenditures are of an institutional nature, i.e., trade magazine advertisements, classified telephone listings, trade circulars, contractor outings, etc., which are primarily directed toward attracting customers to the services offered by the business rather than highlighting specific products offered for sale. The success of such advertising programs can only be measured by the resultant sales billed. Accordingly, the use of supplies and apparatus sales, segregated by product line, represents an appropriate expense allocation basis. Allocation to specific product lines would be in proportion to the ratio of respective product line sales to total supplies and apparatus sales.

Common Unit of Work

In selecting a measurement which accurately reflects the relationship which exists between the output of the order processing function and product lines, the same approach should be taken as was followed in connection with the other functional areas. A common unit of work must be identified, measured and related to the product lines. The unit of work which best expresses the output of an order processing function for a given business will, of course, depend upon the procedures used by the particular business. Such factors as paper flow, use of automated office equipment and even the nature of the business will greatly influence the selection of a standard measurement.

In the case of electrical distributors, the invoice item constitutes a representative output measurement. Customers' orders are generally received by telephone, mail, or salesman's order form. Each item included in the order is edited for proper nomenclature and priced. An invoice is prepared which lists each item in the ordered quantity. One or more copies of the invoice is forwarded to the warehouse to initiate shipment. The remaining copies are passed across the inventory control desk where each item is costed and a deduction posted to stock records. A comptometer operator extends the quantity shipped by the net selling price and unit cost for each item. Although automated office equipment may cause variations in the paper flow pattern as outlined above, the fact remains that almost the entire order processing function is related not to sales volume, not to gross margin percentages, not to number of units sold, but rather to the number of items processed.

For example, the cost of processing an invoice item

PRODUCT LINE PROFITABILITY

FUNCTIONAL EXPENSES

S & A SALES	S & A ADV.	ORDER PROCESSING	TRANS. AND OTHER EXP.	TOTAL EXP.	INCOME BEFORE TAXES AMOUNT	INCOME BEFORE TAXES % TO SALES
$ 20 981	$ 516	$ 47 416	$ 2 619	$ 76 621	($26 621)	(10.4%)
6 294	217	5 124	1 177	13 858	1 142	1.1
77 631	1 495	82 469	7 084	188 398	(3 398)	(0.5)
31 892	1 366	11 902	7 654	60 462	15 538	2.3
13 008	295	9 763	1 467	26 947	4 053	2.8
10 491	267	2 761	1 366	15 563	9 437	7.1
13 428	314	37 242	1 581	54 477	(22 477)	(14.3)
		19 196	4 921	67 699	17 301	3.7
		3 889	4 681	45 725	29 275	6.6
		3 373	9 450	63 950	42 050	4.9
$173 725	$4 470	$223 135	$42 000	$613 700	$66 300	1.7%

AVERAGE SALES ITEM

FUNCTIONAL EXPENSES

S & A SALES	S & A ADV.	ORDER PROCESSING	TRANS. & OTHER EXP.	TOTAL EXPENSES	INCOME BEFORE TAXES
$ .74	$ .02	$1.66	$ .09	$ 2.68	$(.93)
2.04	.07	1.66	.38	4.49	.37
1.56	.03	1.66	.14	3.79	(.07)
4.45	.19	1.66	1.07	8.44	2.16
2.21	.05	1.66	.25	4.58	.69
6.31	.16	1.66	.82	9.36	5.67
.60	.01	1.66	.07	2.43	(1.00)
		1.66	.43	5.85	1.50
		1.66	2.00	19.52	12.50
		1.66	4.65	31.49	20.70

As Indicators of Profitability (as above)

for 24 vacuum cleaners will not substantially differ from the cost of processing an invoice item for one wiring device. The paper flow and work steps are identical in each instance. It is only in the credit and collection activity where the invoice becomes a more accurate measurement of work. Unfortunately, invoices cannot generally be grouped by product line since, in most instances, more than one product is included. It would appear, however, that a fairly close relationship exists between invoices and invoice items. Unless the order processing function is of sufficient size as to warrant the use of more than one measurement, it is recommended that invoice items serve as the output work unit.

Depends on Accounting System

The method used to summarize invoice items by product line will, to a large extent, be governed by the type of accounting system used by the distributor. If, for example, tabulated cards are keypunched for each invoice item which indicate sales, cost of sales and product line code, the task of accumulating item count statistics is vastly simplified. Under these circumstances, the sales detail cards may be sorted by product line code, tabulated for sales and cost statistics and counted for item count statistics. However, if sales statistics are accumulated manually without respect to segregating invoices by product line, it may be necessary to obtain item counts through reference to the number of withdrawals posted to inventory control records.

An alternative method would be to analyze one or two months invoices and manually accumulate item count statistics. If this method is followed, it is important that the months selected represent typical periods in order to properly reflect seasonal variations in product sales. Regardless of the manner in which item statistics are obtained, the aggregate expense of the order processing function is assigned to individual product lines in the same ratio as the item counts for each line bear to total item count.

For the most part, cost elements included in the transportation and other expense function cannot be readily measured. In fact, these costs are so dissimilar, it is recommended that separate bases be used for assigning each cost element to the various product lines. The bases used should reflect the nature of the expense and the best available information concerning its generation.

For example, certain suppliers prepay all transporta-

Cost Analyses Can Lead to Many Benefits

tion. Other suppliers ship all merchandise at customers' expense. Obviously, then, incoming transportation should be assigned only to those product lines for which the distributor absorbs the expense.

Analysis of incoming freight bills would, of course, represent the most accurate allocation basis. If these details are not available, or if it is apparent that the increased accuracy which would result from such a review would not be justified by the cost, it is suggested that cost of sales of those product lines for which the distributor incurs freight expense be used as the basis of expense assignment.

Outgoing transportation generally consists of metropolitan cartage fees in addition to freight charges. The assignment of this expense to product lines will vary with the transportation policy of the distributor. If it is the distributor's policy to prepay all shipments, outgoing transportation expense should be assigned to all product lines. The amount assigned can be determined by reviewing outgoing freight bills and by conducting surveys of cartage usage. Again, if such an analysis would be too time-consuming for the amount involved, cost of sales may be used as the allocation basis.

The same techniques as recommended for transportation expense should be followed for the allocation of cash discounts allowed and received. Many distributors adhere to the policy of allowing discounts to the same extent which they receive discounts from suppliers. In these instances, if accounting records do not contain specific details of cash discount income and expense by product line, both cash discounts earned and allowed may be allocated on the basis of cost of sales and sales billed respectively of those lines for which discounts are received from suppliers. In any event, the allocation basis used should reflect the cash discount policy of both the distributor and his suppliers.

The allocation of other expenses and income elements included in this function should be based upon analysis of the specific factors which generate each item. In most instances an accurate allocation should result once the nature of the cost is fully understood. However, it may be necessary in a few instances to assign cost to product lines on the basis of an arbitrary decision.

Profit Contribution Known

Once the allocation of aggregate functional expenses has been completed, a summary of product line profitability, as illustrated in Exhibit D, may be prepared. At this point, the contribution of each commodity group to the over-all business is a known quantity. Analysis of this exhibit will undoubtedly disclose that some lines are profitable, others are unprofitable and still others are a break-even proposition. It will also be noted that a high gross margin ratio is no guarantee of profitability. The stage is now set for an intensive review of those product characteristics which generate profitability as well as those which generate losses. Once this step is accomplished, corrective measures may be designed which will eliminate, or at least minimize, unprofitable transactions. Herein lies the primary purpose and value of distribution cost accounting.

Although there are various types of analyses which will summarize product characteristics, a comparison of the average invoice sales item for each product line will be most meaningful. An analysis of this nature, which is illustrated in Exhibit E, will disclose income and expense relationships caused by both sales patterns and product characteristics. For example, Exhibit D indicates that the gross margin ratio for Product Line No. 1 is equivalent to 19.5% of sales. However, Exhibit E discloses that, when converted to dollars and cents, gross margin earned on the average sales item of Product Line No. 1 amounts to $1.75. As functional expenses aggregate $2.68, a loss of $.93, equivalent to 10.4% of sales, is incurred on each item sales. Hence, the use of gross margin ratios as an indication of profitability can be extremely misleading.

Order Processing Cost Identical

Another important characteristic of costs is illustrated in the average item order processing cost as shown on Exhibit E. Regardless of sales dollars, gross margin ratios or number of units comprising each item, the per unit order processing cost is identical. The reason for this similarity is, of course, that identical effort in the editing, pricing, inventory control, billing, credit and collection and accounting areas is expended on each sale item.

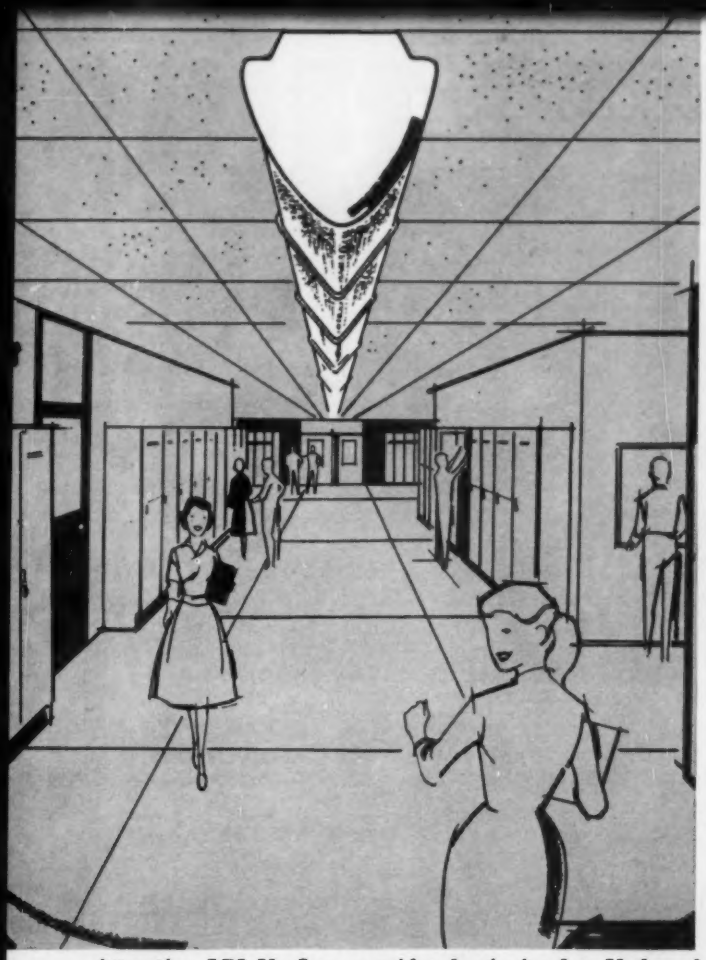
In actual practice, some variance in effort may exist among the various product lines. If such a situation does exist, the added cost of processing sales items of one product line as compared to items of other product lines may be reflected in the final cost analysis by simply weighting the invoice item counts by a factor which expresses the additional effort. The distribution cost analyst is cautioned, however, to substantiate such variances through some form of work measurement or statistical analysis as variances in effort occur more frequently in the opinions of people than exist in actual practice.

The benefits which can be derived from a cost analysis are limited solely by the quality of the analysis and the resourcefulness of those reviewing the data. The mere performance of a cost study will add absolutely nothing of value to a business. Gains will be achieved only though implementation of the necessary corrective measures disclosed by the statistical data. A partial listing of benefits which may be obtained would include improved sales direction, institution of appropriate pricing policies, better measurement of advertising expenditures, pinpointing high expense areas, and factual measurement of employee productivity.

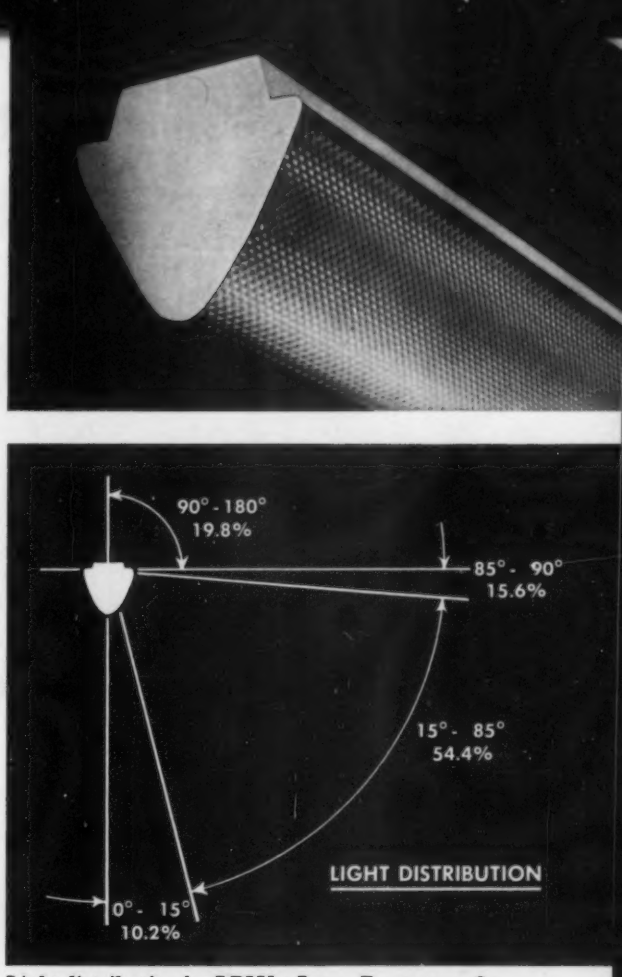
The decision to perform a cost study should not be made on the basis of whether the business can afford it; rather the decision should be made on the basis of whether the business can afford not to analyze its operations.

Reprints Available

One reprint of this special report will be sent free to any electrical distributor upon written request. Prices for additional quantities are as follows: 1-49, 25¢ each; 50 or more, 15¢ each.



Attractive LPI VeeLens corridor luminaire has V-shaped prismatic diffuser and convex reflector which concentrates greatest amount of light on wall areas. Viewed endwise, it provides excellent brightness control—maximum brightness does not exceed 350 footlamberts in the 45° to 90° zone.



Light distribution for LPI VeeLens. Percentage figures show amount of light (based on 100% for half the luminaire) which falls in various sectors. Upward component permits proper brightness ratios and relieves contrast on the corridor ceiling.

New, low-cost LPI VeeLens puts high levels of useful light on corridor walls

The VeeLens fluorescent corridor luminaire is engineered for efficient application to school corridors, library stacks, stock room aisles, and pedestrian tunnels. It solves the two important corridor lighting problems at lowest possible cost: (1) most of the useful light is directed where you want it—on the vertical surfaces, and (2) brightness down the corridor is controlled to a comfortable level without glare.

Formerly, only far more expensive fluorescent luminaires with intricate shielding, or incandescent luminaires with special lenses directed the useful light so effectively. Now, LPI's VeeLens does the job better at lower cost because it utilizes a clear prismatic diffuser containing thousands of 8-sided prisms. This diffuser combined with the unit's convex reflector distributes useful illumination in the pattern most desirable for corridor lighting—the "butterfly curve." The result is a high level of illumination on the vertical surfaces with controlled brightness when viewing parallel to the luminaire.

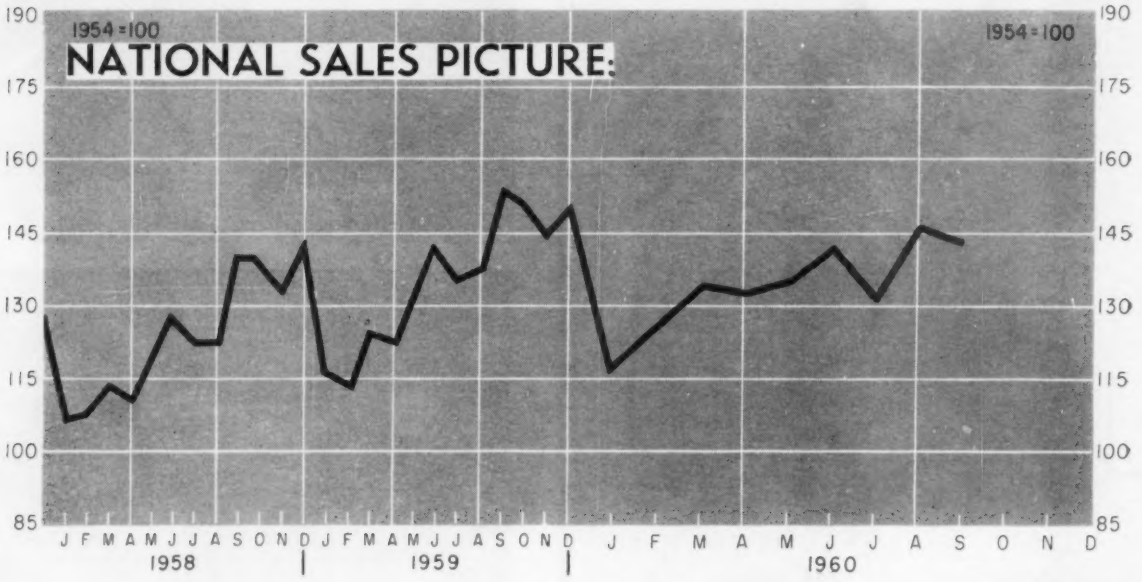
VeeLens luminaires are available for surface or pendant mounting, individually or in continuous rows. They utilize one 48" rapid-start lamp in a 4-ft. luminaire, or two 48" rapid-start lamps, tandem, in an 8-ft. luminaire. Diffusers hinge from either side.

For complete information, write for VeeLens bulletin

LPI FLUORESCENT LIGHTING

Lighting Products Inc., Highland Park, Illinois

BUSINESS INDEX for SEPTEMBER 1960*



	SALES (% Change)			INVENTORY (% Change)	
	From Sept. '59	From Aug. '60	1960 From 1959**	From Sept. '59	From Aug. '60
NATION	— 7	— 2	+ 1	+ 3	— 1
NEW ENGLAND	— 5	(X)	+ 5	(X)	— 4
MIDDLE ATLANTIC	0	— 6	+ 3	0	+ 1
EAST NORTH CENTRAL	—10	— 3	+ 1	+11	— 4
WEST NORTH CENTRAL	—10	+ 5	—10	— 3	— 5
SOUTH ATLANTIC	—16	— 1	— 4	+ 2	+ 2
EAST SOUTH CENTRAL	(X)	— 2	0	+38	+ 7
WEST SOUTH CENTRAL	— 3	— 3	— 4	+ 4	— 1
MOUNTAIN	(X)	+ 2	— 2	0	— 8
PACIFIC	— 4	0	— 6	— 4	— 1

*For electrical apparatus, supplies distributors; Source: Bureau of Census. **9 months 1960 from 9 months 1959.

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Rome Cable Division of Alcoa, Dept. 17-120, Rome, New York.

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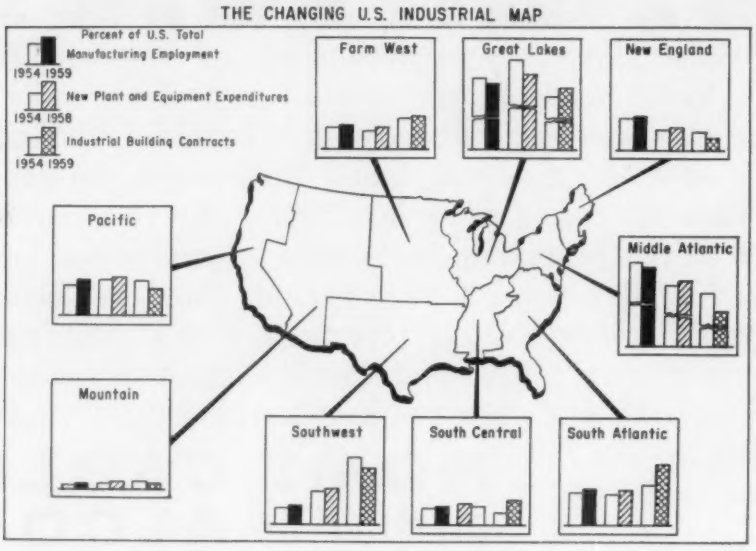


Industry's Growth Pattern Moves Toward West and South

Both areas are emerging as leaders in national industrial growth. New plants and factory expansions noted.

A SURE sign of sound economic growth is America's changing industrial pattern. For many years the Middle Atlantic region and the Northeast have held the lead as the industrial centers of the nation, but this lead is being challenged. The West and South have been steadily growing at the expense of the traditional East and Midwest manufacturing centers. The three Pacific states, for example, are rapidly emerging as the third most important industrial area of the United States. The South Atlantic states still hold third spot but by a very small margin.

Two other observations about this vast march of industry across the nation should be noted:

- For the first time since World War II, the pace of industry's westward march is slowing down.
- Industry is not shunning cities in its march to the West. Many sprawling Western cities have chalked up impressive gains in factory employment while the opposite has been true for most Eastern cities.

• **Why Move?**—A manufacturer's decision to erect a new plant in the South or West may hinge on anything from a computer's scientific recommendation to the whim of a company executive. But industry's movement to greener pastures is undoubtedly influenced by the rapidly growing consumer markets in those areas.

The strongest force exerted on plant location is usually the consumer market. Thus, the areas of fastest population growth are also the areas of fastest industrial growth.

In addition, industry attracts more industry. As soon as one industry gains a foothold in a region, other industries move in to supply it with products needed to produce a finished good. Migration, which may begin with only a few industries, soon includes a broad range of industries. The Pacific or South Atlantic states confirm this point. In those two rapidly growing areas, industrial growth is pretty nearly across the board.

• **Decline Noted**—Manufacturing employment statistics indicated that the **Middle Atlantic and Great Lakes states are slipping downhill in relative importance, although the Great Lakes still comprise the nation's most important industrial region.** New England's share of the total employment pie declined between 1954 and 1959, just as it has since 1939, but the rate of the decline seems to be slackening. Meanwhile, the Pacific states skyrocketed to a virtual tie with the South Atlantic area for third place in terms of factory jobs. The Southwestern states also continued the steady gains registered in past years so that they now account for more than 5% of total U. S. factory employment.

Capital expenditures for new plant and equipment confirm a drop for the Great Lakes area, but indicate that the New England and Middle Atlantic regions increased their shares of total capital spending. This measure of industrial importance also underscores the Pacific area's growth; its share of capital expenditures increased between 1954 and 1958, just as it has since 1939. Strong growth is also indicated for the Southwest region where 10% of all U. S. capital expenditures were made in 1958.

Industrial building contracts indicate big gains for the South Atlantic and South Central regions, marking the second consecutive time these two areas have increased their relative shares of total contract awards. On the other hand, the New England and Middle Atlantic states were both heavy losers.

• **Regional Changes**—Industrial migration on a national scale proceeds with glacial slowness. Each region includes many separate industries of which only a handful are normally in transition. While some industries are waning in importance, others may be waxing, so the net effect on an entire region is usually small.

But in only a few years individual industries can be born and grow to substantial size within a region. By the same token, existing industries can dwindle to only a shadow of their former size within a five-year period such as is used in this study (1954 to 1959).

The following highlights the industries and the states within various regions that have seen the most important changes in size. Employment in major manufacturing industries is the yardstick used for measuring regional shifts, and it is the only available measure of the performance of individual industries by states for 1959.

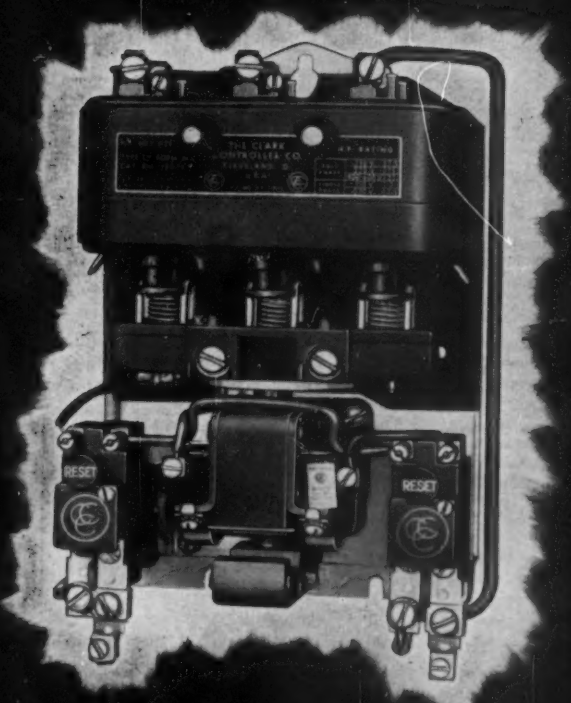
New England

New England's industrial stature has deteriorated for the last half century. Now, however, the area is holding its own.

Between 1947 and 1954, factory employment in the new England

Continued on page 80

What's the measure of starter performance?



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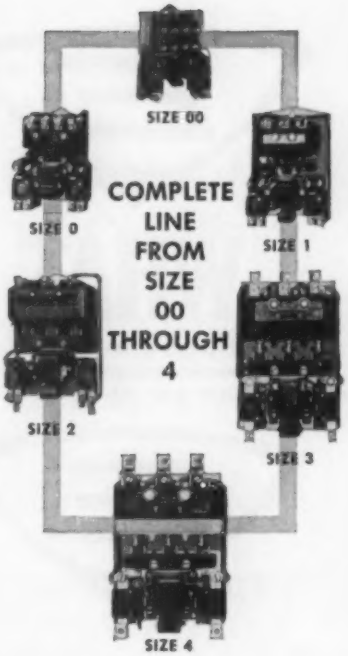

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Copper Outlook Doubtful

Future of weakening copper market depends on uncertain world affairs, spread of labor troubles, change in U.S. economy and supply-demand balance

WHAT'S going on in copper? Today the price of copper is 30-cents a pound, but industry representatives and market observers refuse to make any flat predictions about tomorrow.

Because of the volatile nature of influences now controlling prices on the copper market, the future is a moot question. However, one thing is certain: copper producers are preparing for production cut-backs and, in general, are shoring up their defenses in an effort to hold the present 30-cent price.

The wildly fluctuating African situation, general economic uncertainty and labor troubles in the copper industry have been controlling the copper market during the past few months. Changes in these situations were responsible for the recent plunge of copper prices from 33-cents a pound to the present 30-cent figure.

Now, late in November, the copper market seems to be comparatively stable, but the picture could change overnight. Observers are watching for new developments in the Congo, the spread of labor trouble in Chile, and a reversal or continuance of a slowing U.S. economy as the keys to future copper price increases or decreases.

To better understand today's uneasy copper market, it is necessary to review the events which have sustained copper prices during the past few months, and those which have caused the recent price cuts.

• **Speculation**—Activity on the London Metal Exchange set the trend for the presently sagging copper market. London speculators believed the explosive Congo situation would stop, or at least reduce, copper production at the huge Katanga operation. Anticipating repercussions in other copper producing areas, and noting labor trouble at Northern Rhodesian mines, the LME looked for large scale involuntary cut-backs in world copper production—by more than 10%. With the copper industry overproduced, supply exceeding demand by approximately 10%, the effects of the African situation were expected to balance the supply-demand picture.

Rumblings of a strike at Anaconda's Chuquicamata mine in Chile, and possible spread of this action to other Chilean mines, appeared to make the supply-demand balance even more certain.

With this feeling prevalent, copper prices maintained a strong position on the LME at a time when a slowing economy and a choosy buyer's market in the U.S. indicated a definite weakening of prices for the metal.

The price of copper on the LME was further strengthened with record purchases of the metal by European fabricators. Fearing loss of supply and higher prices in the future, foreign fabricators stocked great quantities of copper. The record sales, as reflected on the LME, gave credence to the strong price position of copper.

• **Reality**—Recent events, however, knocked the props out from under such speculative theory, and necessary re-evaluation and adjustment tumbled copper prices on the LME.

The Katanga threat never materialized. Intervention of UN troops in the Congo apparently assures capacity production at Katanga and political peace in neighboring Rhodesia. Labor trouble at the Northern Rhodesian mines was quickly negotiated and settled by an agreement insuring normal copper production until December, 1961.

With large world supplies of copper on hand and no shortage seen in the near future, the effect of the strike at the Chuquicamata mine, which began October 1st, has been discounted with the recent settlement which was reached on November 13th.

• **Prices Drop**—Normal copper production in Africa retards any immediate hope for a natural balancing of the supply and demand spread. With excessive copper supplies, a slowing economic picture in the U.S. and large European fabricator inventories, copper prices on the LME declined rapidly.

As the spread between the U.S. and LME prices for the metal grew, U.S. distributors and fabricators found themselves being squeezed out of the competitive picture by imported copper products selling at prices beneath their minimums. U.S. producers, protecting their major market, were forced to slash their copper prices by 3-cents to meet the challenge and steady a split world market.

• **The Future**—Now that prices are again competitive, copper producers are taking steps to maintain a stable market and prevent further price cuts. Some major producers have already ordered production cutbacks,

1 I'm H. G. Millican, President of Millican Electric Company, Atlanta, Georgia. The people at SPANG asked me for my opinion of SPANG Conduit Couplings. We've used them for years—almost exclusively—on electrical jobs in our area, and there are a number of reasons why.

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3 SPANG quality is invariably high. Threads are clean and uniform—no burrs or snags to bind the conduit. In fact, you can run couplings on the conduit by hand. Practically a machine fit. Try it and see! It means the coupling is straight. This is another time-saver on the job.

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and others are prepared to follow suit if necessary. Despite these precautions, world politics, the direction of the U.S. economy, and labor relations will be the chief factors determining the future of the unpredictable copper market in the coming months.

News For The Industry . . .

Continued from page 76

states declined 6%, and not one state bucked the general trend. But, in 1959 New England's factory employment was a shade higher than in 1954, a dramatic reversal of the previous trend. Massachusetts, the largest employer in the New England states, is also growing somewhat faster than the nation as a whole. Employment in Massachusetts' rubber industry is half again as large now as it was in 1954, and employment in electrical machinery factories is 20% higher than five years ago. However, the Bay State has not been able to hold its textile industry any better than the other New England states, textile employment falling 30% in the past five years.

New Hampshire has scored some employment gains in durable goods while maintaining stable employment in soft goods. Jobs in both the electrical and non-electrical machinery industries rose about 30% during the past half-decade in New Hampshire.

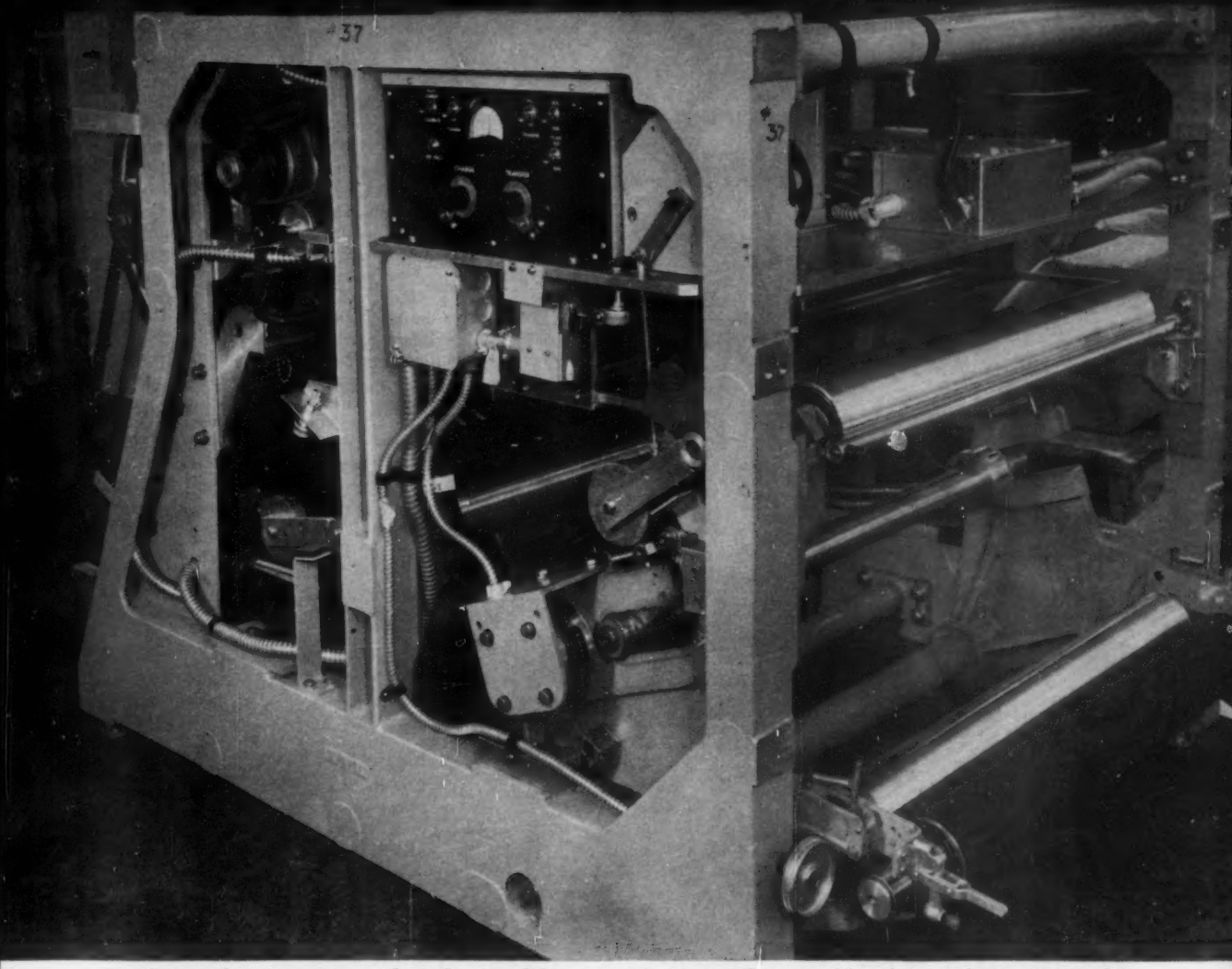
The remaining states in New England—Vermont, Rhode Island, Connecticut, and Maine—lost factory employees between 1954 and 1959. In all four states, a loss of textile mill employees was a heavy blow to manufacturing payrolls.

New England's recent display of economic vigor is encouraging, but there seems little chance of an all-out industrial boom ahead. One reason factory jobs held up well during the past five years is that the older industries had already deserted New England. In addition, the faster tempo of the "cold" war has brought new industries, particularly electronics, to the area because of its research universities.

But consumer markets are not growing as rapidly as other areas; transportation is relatively costly and slow, and New England has few industrial raw materials. Without one or more of these advantages, New England's industrial growth seems unlikely to accelerate in the near future.

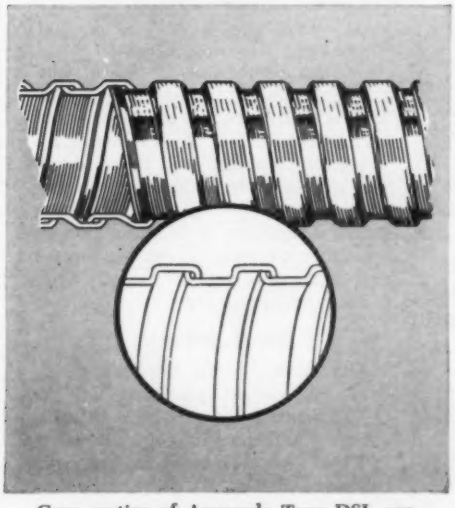
Middle Atlantic States

This area continues to drop behind. Five years ago, the Middle Atlantic region provided 28% of the nation's factory employment, now it provides only 26.8%. The number of factory workers in the region embrac-



XeroX* Copyflo* Continuous Printer with panels removed shows compact wiring installation possible with Anaconda Type DSL conduit.

TURN TIGHT CORNERS EASILY WITH ANACONDA TYPE DSL EXTRA FLEXIBLE WIRING CONDUIT



Cross section of Anaconda Type DSL conduit. Made from galvanized steel, without packing; extra flexible construction.

The compactness of modern design calls for Anaconda Type DSL extra flexible wiring conduit—made especially for jobs where small bends are required. For example, look at the interior of the XeroX Copyflo continuous printer shown above—a great deal of wiring, enclosed in DSL, was snaked around in relatively tight quarters.

Anaconda Type DSL is high-quality conduit made of galvanized steel—without packing, for more flexibility. It comes in a full range of sizes—3/16" I.D. through 3/4" I.D.—in convenient standard length coils. Be ready to supply Type DSL when customers ask for conduit to turn tight corners. Contact your Anaconda Metal Hose representative, or write: Anaconda Metal Hose, P.O. Box 791, Waterbury 20, Connecticut.

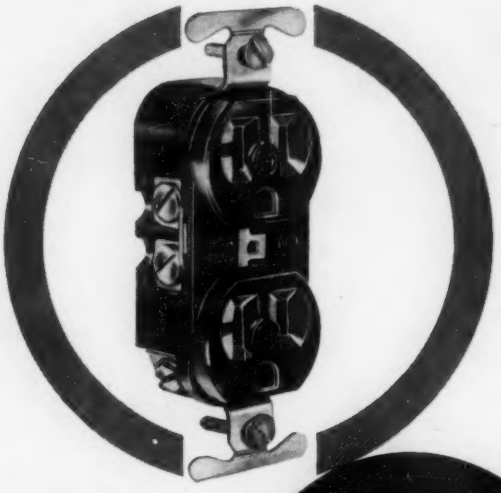
*Registered trademarks of Haloid Xerox Inc., Rochester, N. Y. 6013GWL

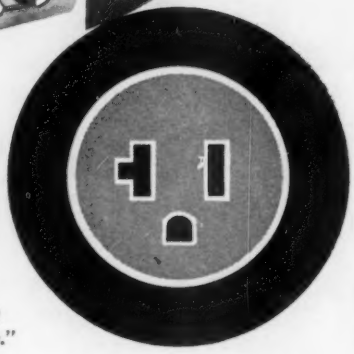
TYPE DSL

extra flexible wiring conduit

an **ANACONDA®** *product*

NEW CIRCLE F 20-AMP "U"-GROUND DEVICES





. . . Section 220-3 (b) of the 1959 National Electrical Code states . . .

"For the small appliance load in kitchen, laundry, pantry, dining room and breakfast room of dwelling occupancies, (1) 2 or more 20-ampere branch circuits in addition to the branch circuits specified in paragraph 220-3 (a) shall be provided for all receptacle outlets (other than outlets for clocks) in these rooms, and such circuits shall have no other outlets."

Designed to provide full compliance with the revised Code, Circle F's *new* No. 2532 does much more! It becomes a "universal" outlet! It accommodates appliances, heavy-duty portable tools, business machines, etc., having substantial energy requirements, where the new 20 A.-125 V. plug cap (No. 2528) is necessary. It also accommodates 15 A.-125 V. 3 wire U-ground and standard parallel blade caps. One outlet for all! Circle F's quality is tops and the price is right. Contact your Circle F representative for complete details.

CIRCLE F MFG. CO.

TRENTON 4, NEW JERSEY

ing New York, New Jersey, Pennsylvania, Maryland, Delaware and the District of Columbia actually declined during the past five years despite substantial gains by individual industries, such as electrical machinery, chemicals and shipbuilding.

Of the three most important industrial states in the region, Pennsylvania and New York are dropping behind at about the same pace as the entire region while New Jersey is holding its own. However, New York and Pennsylvania remain in first and second places, respectively, in the number of factory jobs. In terms of capital investment, the Keystone State ranks first, but New York lags behind in fifth place.

New York's waning industrial might is spread pretty much across the board in both durable and nondurable goods. Jobs in the primary and fabricated metal industries were off about 8% compared with 1954, and most of the soft goods lines turned in a similarly lackluster performance. For example, employment in the apparel industry, New York's most important soft goods industry, was off 10% in the five-year period.

However, a few industries managed to run against the tide in the Empire State. Both electrical and nonelectrical machinery producers increased employment 10% in five years. In soft goods, the printing and publishing industry augmented employment 4% over the past half decade.

New Jersey, counter to the area's trend, chalked up a 2% gain in manufacturing employment during the past half decade. The electrical machinery industry—New Jersey's largest employer—is still expanding, as is the chemical industry, its second largest employer. The transportation industry as a whole showed little change since 1954, but within that group employment in the aircraft industry dipped substantially while auto and shipbuilding jobs were up slightly.

One important reason the Middle Atlantic region's industry is on the skids is that its output is concentrated in primary metals, heavy manufacturing and textiles. And these industries are unlikely to see much more than average growth in the years ahead. Therefore, it is reasonable to anticipate a continued decline for the region that once was the country's top ranking industrial area.

South Atlantic

The South Atlantic Region is steadily increasing its importance on the U.S. industrial map. It now provides 10% of all factory jobs and, in 1959, 17% of all industrial construction contract awards. All three economic

NEW LAMP INJECTS COLOR!

Sylvania "Natural" White Fluorescents bring out the colors that bring in the sales.

At last, a full spectrum fluorescent! No more "gray" meats, lifeless lettuce. Suddenly, with the flick of a switch, everything you display looks more tempting, attractive, suffused with rich, glowing natural color!

An amazing new Sylvania phosphor blend does it. Gives you a better blend of *all* colors *with the highest percentage of red color yet attained.*

And like all Sylvania fluorescents, new "Natural" Whites are backed by this exclusive Sylvania Light Insurance Policy:

"If at any time a Sylvania Fluorescent Lamp fails in your opinion to provide better performance than any other brand fluorescent lamps, on the basis of uniformity of performance, uniformity of appearance, maintained brightness and life, it may be returned to the supplier for full refund of purchase price."

FREE INFORMATION BOOKLET!

No wonder meat markets and supermarkets are so enthusiastic where Sylvania "Natural" White Fluorescents have been tested. Sylvania will gladly send you a free 4-page booklet telling their whole exciting story. Ask your Sylvania representative.

Or write: Sylvania Lighting Products, a Division of Sylvania Electric Products Inc., Dept. 62, 60 Boston St., Salem, Mass. In Canada: Sylvania Electric (Canada) Ltd., P.O. Box 2190, Station "O," Montreal 9.

Even your profits look greener!

SYLVANIA

Subsidiary of **GENERAL TELEPHONE & ELECTRONICS**

How a new product can *DOUBLE* your splicing tape sales

Okoweld—Okonite's remarkable new splicing tape—can double your splicing tape sales when promoted with effective demonstration.

Here's how Mr. Al Maczko, a tape distributor salesman for National Electric Co. of Passaic, N. J., uses this demonstration for Okoweld, the only tape required for making a splice or termination up to 2000 volts.

1. "First, I point out Okoweld's self-fusing qualities—the same qualities that make all Okonite tapes the best covering for splices and terminations. Then I point out that Okoweld is the only tape of its kind with Underwriters' Laboratories approval as the *sole* covering for electrical connections. This, of course, is a telling point, but a demonstration makes it most effective.

2. "Next, I snugly wrap a length of Okoweld around a pencil. It promptly fuses together. When my customer sees how the layers fuse into each other and become a solid wall of moisture-proof, void-free cable insulating compound, he's ready for the 'close.'

3. "I close by pointing out that this new tape applies easily and that it is guaranteed against oozing, slipping or separating into layers. Then I ask my customer if he knows of any other tape with all those qualities that is the *only* tape needed for splices and terminations up to 2000 volts. (Okoweld, of course, is the only one.)

"Then I ask for the order—and usually get it."

Try this "sales-maker" demonstration of Al Maczko's—your tape sales will jump.

Ask about Okonite's splicing movies and tape calculator. They're designed to help *you* increase your tape sales.

THE OKONITE COMPANY

Subsidiary of Kennecott Copper Corporation
Passaic, New Jersey

0507

SOLD 100% THROUGH AUTHORIZED ELECTRICAL DISTRIBUTORS

yardsticks used in this study confirm vigorous growth between 1954 and 1959, and present indications are that growth will continue.

Among the states of the South Atlantic region, Florida outstripped all others. Factory employment jumped 50%, sparked by very large increases in fabricated metal products, electrical machinery, and some other durable goods lines. Employment gains were neither as strong nor as widespread in soft goods, but Florida was the only state in the region to increase textile mill employment. At present, industry is split about half and half between hard and soft goods, but the present growth rate of the hard goods industries promises to tip the scales in their favor during the next few years.

Factory jobs in Georgia rose 8% since 1954, and the gain was spread about evenly between durable and nondurable producers, although soft goods still predominate. Employment in the pulp and paper industry jumped 20% while jobs in the machinery industries (electrical and nonelectrical) did even better with a 40% gain.

Machinery and furniture employment sparked an 8% gain in North Carolina's total factory employment. However, textile mills, employing about half of the state's factory workers, cut jobs 5% during the five-year period. In the years ahead, this state's industrial composition will be dominated by the soft goods industries, but growth will be strongest in hard goods.

South Carolina also suffered an employment decline in textile manufacturing, its chief industry, but gains in apparel and food processing partially compensated for this loss. Employment jumped in nonelectrical machinery and in primary metals between 1954 and 1959, and these two industries will show further gains as South Carolina's manufacturing swings more toward durable goods.

Virginia and West Virginia are the slowest growing states of the South Atlantic region. Both states maintained their share of the nation's employment, but future growth is unlikely in either state.

Great Lakes

This region remains the industrial core of the United States, despite steady inroads made by other areas. More than a fourth of all factory employment and nearly 30% of all plant and equipment expenditures are concentrated here.

Sheer industrial might is no guarantee of growth, however. The Great Lakes States have been sliding downhill since the end of World War II. In

Yes, Allen-Bradley also makes...

A-B QUALITY

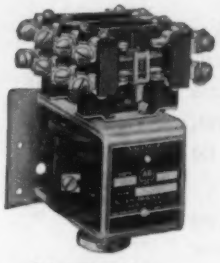
DC Contactors

Here's the only line of DC contactors using the simple solenoid design—with ONE moving part—in all ratings through Size 4. And their double break, silver alloy contacts never need servicing.

BULLETIN 202

DC Control Relays

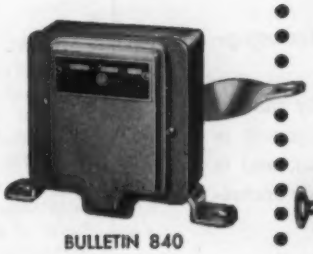
These relays are the counterpart of the Bulletin 700 line of AC relays—of which millions are in service. With only ONE moving part—these relays provide the ultimate in long life and reliability. Like the AC line, they have double break, silver contacts that never need maintenance. Made in a variety of types and with up to 8 switching poles.



BULLETIN 200

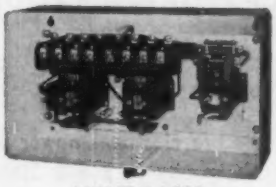
Float Switches

This versatile line of float switches is available in a wide range of types and enclosures to handle practically every industrial pumping job. They all feature a snap-action switch mechanism for positive operation no matter how slowly the liquid level changes.



BULLETIN 840

BULLETIN 1209



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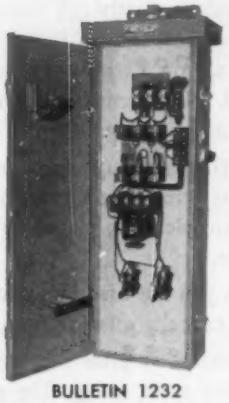

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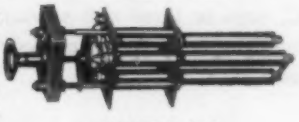


BULLETIN 410

Loom Switch

Manual starting switches designed for textile loom service. Design of operating lever makes accidental operation impossible. Lint-tight enclosure eliminates fire hazard.

Automatic Transfer Switches

For use where power must be maintained, these panels automatically transfer the load to an auxiliary supply when normal supply fails or falls too low. Transfers automatically when the normal power supply is resumed. Mechanically interlocked.

Pump Control Panels

Designed for irrigation and oil field pumping applications. Can also be used with outdoor lighting systems. Uses standard A-B Bulletin 709 solenoid starter with manual disconnect switch or circuit breaker in weatherproof enclosure. Available with many optional features.

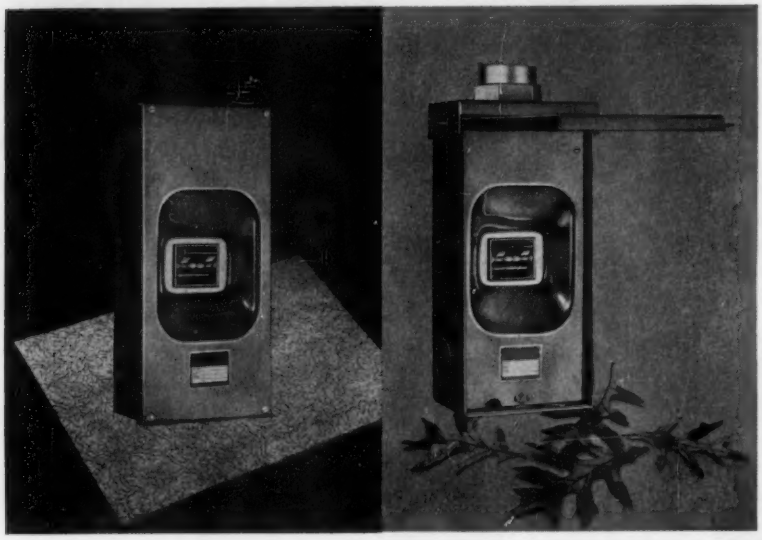
AC and DC Rheostats

Provide absolutely stepless control over a wide resistance range. Full wattage capacity available at all settings. Sizes to 5400 watts.

Allen-Bradley Co., 106 W. Greenfield Ave., Milwaukee 4, Wis. • In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY Member of NEMA — *Quality* Motor Control

NEW...FROM HEINEMANN



200 AMP SERVICE ENTRANCE EQUIPMENT

. . . small box
. . . big breaker

Customers looking for more electrical power will find a lot to like in this unit. Capacity is a full 200 amperes. "Full" because the Heinemann hydraulic-magnetic breaker makes de-rating as obsolete as yesterday's weather forecast. You can put this equipment next to heat lines, or let it sizzle in the summer sun. It always carries full rated current, always trips as specified. No thermal elements . . . no temperature-caused nuisance tripping.

Installation? Painless. There's enough space inside for two hands *and* wire. Solderless screw-type connectors save time and trouble. Knockouts are plentiful, placed so conduit can be run-in from any angle.

Cost? A little less than you are used to paying for equipment that supplies equal capacity *after de-rating.*

The size is another pleasant surprise . . . slightly smaller than fused pull-outs of the same rating. The equipment is rated at 120/240V AC, two- or three-wire service, and is available in indoor or raintight, tamperproof outdoor enclosures of heavy-gauge steel.

MORE QUESTIONS? SEND FOR BULLETIN 1003

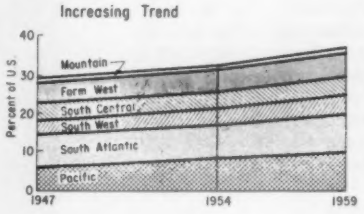
HEINEMANN
ELECTRIC COMPANY
152 Plum Street, Trenton, N. J.

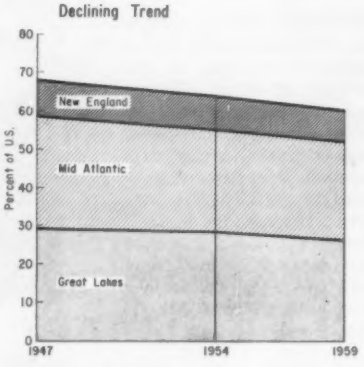
Circuit breakers

S.A. 2044

1947, about 30% of all factory workers were employed in the Great Lakes region; now only 27% of factory jobs are located there. But the proportion of industrial building contracts awarded in the region is rising slowly, and steadily. If manufacturers succeed in replacing their obsolete industrial buildings, they will be in a good position to benefit from the anticipated impact of the St. Lawrence Seaway. Expanding foreign trade and growing industrial development west of the Great Lakes could bring significant changes.

INDUSTRY ON THE MOVE
(Factory Workers)



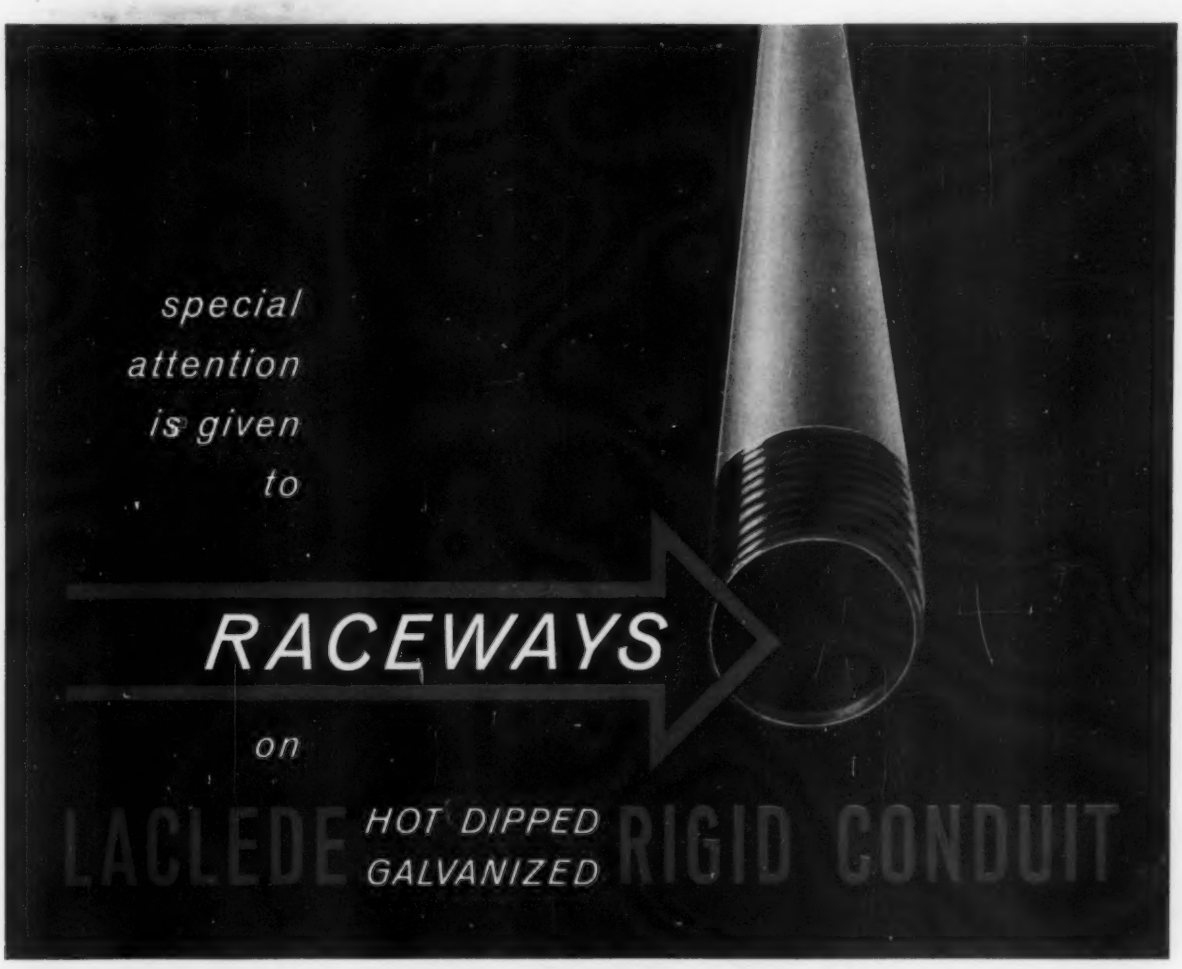


Source: McGraw-Hill Department of Economics

Farm West

Additions to factory payrolls in the Farm West have diminished. The region had steadily increased its share of total factory jobs from 1939 to 1954, but between 1954 and 1959, the Farm West held steady at 6% of all U.S. manufacturing employment. Surprisingly, however, these states—Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota—had the largest increase in new plant and equipment spending. In terms of sheer size, the Farm West is dwarfed by the Great Lakes and the Middle Atlantic regions. But the so-called farm states are laying the groundwork for further industrial expansion.

In the future, the farm states will surpass New England in the number of factory workers if present growth rates continue. Right now, the Farm

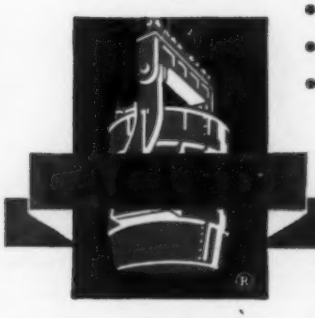


SMOOTH INNER RACEWAYS PERMIT EASY WIRE PULLING

Laclede Rigid Conduit, produced in one of the most modern pipe mills in America, is designed to leave no inside seam. It is galvanized in 10′ lengths for maximum inside smoothness of zinc. A special protective coating over the zinc reduces friction to make wire-pulling easy with ordinary fish tapes. Threaded ends butt in the coupling to form a snag-free raceway.

. . . and look at these other quality features

- Made of Laclede's own open-hearth steel
- Hot dipped galvanized inside and out
- Easy to bend without fracture of protective coating
- Meets Underwriters, A.S.A., State, and Federal specifications
- Available from stock for quick delivery



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Be ready for this growing market ...carry Cornish electronic wires, cable and cord sets as part of your regular Cornish stock. Have them on the shelves when you need them. If you're currently carrying the complete Cornish line you know what we mean, if not, ask our representative to give you the facts about our electronic product line. And don't forget, we still manufacture the quality line of regular cord sets, flexible cords and thermostat wires... all available to you through our manufacturing locations and field warehouses.

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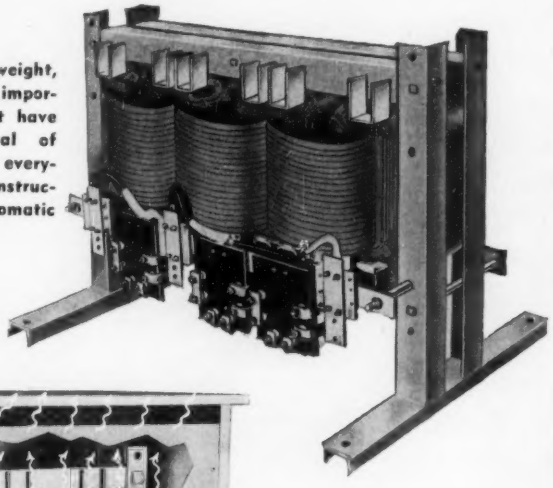
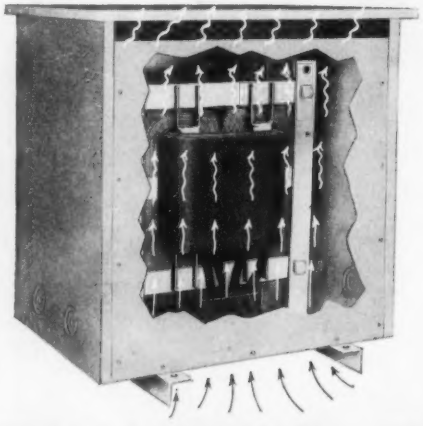
50 CHURCH STREET, NEW YORK 7, NEW YORK

It's what's *INSIDE* that makes them... *Quiet*

If you're critical about transformer performance, examine the construction of Acme Electric continuous duty, dry-type transformers. You'll like what you see; sturdily constructed, grain oriented steel laminations, form wound coils, which are rigidly braced to resist the shock of heavy current surges. Ample spacing of components in a design that invites air circulation. High quality, insulating materials more than adequately withstand temperature rise for the respective classes of construction. Our many years of constructing Class H insulation transformers can be of value to you.

Compact, light weight, *quiet!* These are important features that have won the approval of plant engineers everywhere. Interior construction cuases automatic air-flow cooling.





WRITE FOR CATALOG

ACME ELECTRIC CORPORATION

6712 Water Street **Cuba, New York**

In Canada: Acme Electric Corp., Ltd., 50 Northline Rd., Toronto, Ont.

Acme ACME Electric TRANSFORMERS

West's share of new plant and machinery spending is the same as New England's, and industrial building contracts in the farm states are far ahead.

South Central

The South Central states grew moderately in a wide range of industries during the past half decade. Not only is the entire region growing, but each of the individual states—Alabama, Kentucky, Mississippi and Tennessee—increased their share of total U.S. factory employment between 1954 and 1959.

The South Central is one of our smallest industrial areas, but it is diversified, with soft goods accounting for 56% of all manufacturing jobs. Employment gains between 1954 and 1959 were evenly split between hard and soft goods.

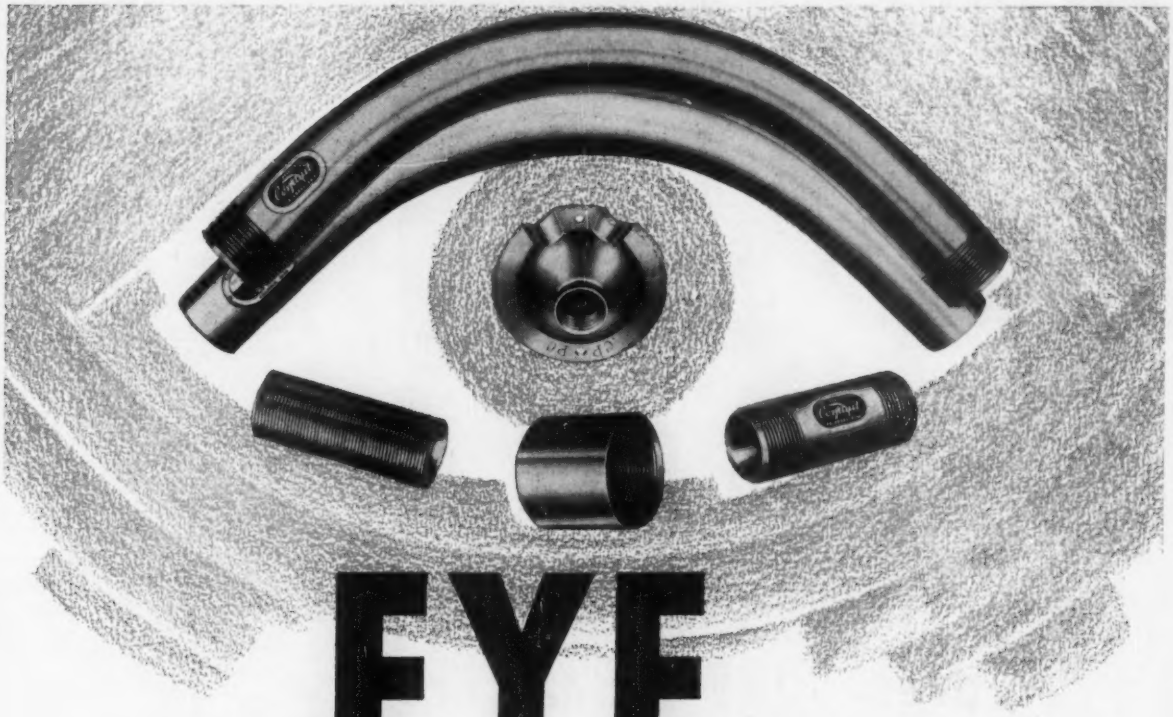
Southwest

In the area comprising the five Southwestern states—Arkansas, Louisiana, New Mexico, Oklahoma and Texas—growth is emphatic. This region's increase in factory jobs outstripped the country as a whole by a wide margin and the gains were spread generously over many hard and soft goods manufacturing industries.

The area's rate of increase in factory jobs has dropped from the dizzy pace set between 1947 and 1954, but industrial growth continued at a fast pace, and prospects for the future are bright. Manufacturers' outlays for new plant and equipment are still on the upswing, and even though the share of all industrial construction contracts in the region dropped between 1954 and 1959, the actual size of the contract share is still very large compared with the area's share of factory jobs.

Actual manufacturing employment rose 10% during the past five years in the Southwest, with durable goods employment increasing just a shade more than nondurables. Jobs in food processing, the region's most important industry, swelled 12%, with other large gains in primary metals, lumber and the stone, clay and glass industries.

Texas now employs 59% of all factory workers in the Southwest versus 56% employed in 1954. Manufacturers increased their payrolls 27% over the past five years, divided into a 16% rise for hard goods, and an 11% rise for soft goods. Food processors, who employ a third of all nondurable goods workers in the state, reported payrolls were 26% larger in 1959 than five years earlier. In the durable goods sector, two industries—stone, clay and glass and fabricated metal



HOW AN EYE FOR QUALITY

means finer conduit fittings for you...

On the shelf, one conduit fitting may look as good as another. But, on the job, **Columbus** brand quality stands out . . . makes installation faster . . . fishing and wire-pulling easier . . . connections absolutely tight-weather and corrosion-proof.

Columbus brand dimensions, gauging, tapping and threading meet uniform standards on each type and size of fitting . . . chamfering is accurate . . . reaming is perfect. That means no complaint from customers, more repeat business.

Even packaging is designed for the greatest usefulness. Convenient-sized cartons with large, easy-to-read identifying labels offer you efficient handling, shelf-storage and selection . . . at no extra cost.

Tell your customers about the trouble-free dependability of **Columbus** fittings. Sell them once and they'll be back for more.

Eleven warehouses are conveniently located for speedy delivery.

Look for the U.L. label
when you buy conduit fittings.

Sold only through recognized wholesalers.

Columbus®
BRAND
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CONDUIT PIPE PRODUCTS COMPANY — COLUMBUS, OHIO

PIPE COUPLINGS • PIPE NIPPLES • ELBOWS, RIGID & E. M. T.
RUNNING THREAD • GOOSENECKS • WALL PLATES

EVERYBODY GAINS

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pres-SURE-connectors in SMALL QUANTITY PACKAGES

YOUR SMALLER CUSTOMERS don't have to make big cash outlays to get the quantities they need.

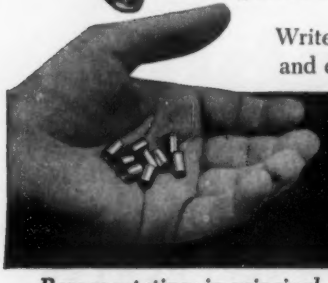
YOUR LARGER CUSTOMERS don't have to handle or count out small quantities from large packages.

YOU will make more sales to more customers because you can now give them the *best* product in *preferred* quantities in *better* packages. Simpler for *you* to stock and to sell — eliminates counting, stops spillage, speeds order filling, simplifies stock records.

YOU AND ALL YOUR CUSTOMERS will like the new SLIP-TOP Boxes* — an exclusive Buchanan development — NOW BEING ADVERTISED TO CONTRACTORS, MAINTENANCE MEN AND OTHER USERS.

* Small Splice Caps and Insulators — 100/box, 10 boxes/std. package. Large Splice Caps, large Insulators, Termend® lugs 50/box, 10 boxes/std. package. (Insulators packed in regular boxes.)

Dispenses Fittings as needed



Write for Bulletin EW-12 and distributor information.

BUCHANAN
ELECTRICAL PRODUCTS CORPORATION
HILLSIDE N. J.

Representatives in principal cities throughout the U. S. and Canada

products—reported employment gains over 50% in the last five year period while electrical machinery doubled employment. On the other hand, petroleum refiners cut their work force nearly 10% since 1954, and so did the lumber and wood products industry.

However, Texas is not the only growing state in the region. Oklahoma manufacturers increased their employment 5% since 1954, and even more impressive gains were scored by individual industries. Employment in the fabricated metal industry rose 39% since 1954, and jobs in both electrical and nonelectrical machinery rose 11%. Food processing, an important industry throughout the Southwest, increased its jobs 12% in the five years covered by this study.

Mountain States

The Mountain states, the least important industrial area of the country, is the fastest growing. Between 1954 and 1959, this region increased its share of all U.S. factory jobs from 1.1% to 1.4% based on a 33% rise in factory jobs.

Hard goods industries are spurring growth in the region while soft goods manufacturers tag along. From nearly an even balance between durables and nondurables in 1954, the scales tipped to 55% hard goods, 45% soft goods in 1959.

Pacific

Industrial growth in the Far West has continued on a broad front for a long time. Manufacturers increased employment 21% in the three Pacific states—California, Oregon and Washington—pushing this region into a photo finish with the South Atlantic states for third place in factory employment. Both regions now employ 10% of U.S. factory workers, but payrolls in the West are growing at a faster clip than in the South Atlantic states, so the Pacific area is pulling ahead.

Seventy percent of the Pacific area's factory jobs are in durable goods industries, which are growing twice as fast as nondurables. Between 1947 and 1954, the aircraft industry grew most rapidly. However, with the shift from aircraft to missiles, employment prospects have fallen for this industry. Now electrical machinery—particularly electronics—has seized the spotlight.

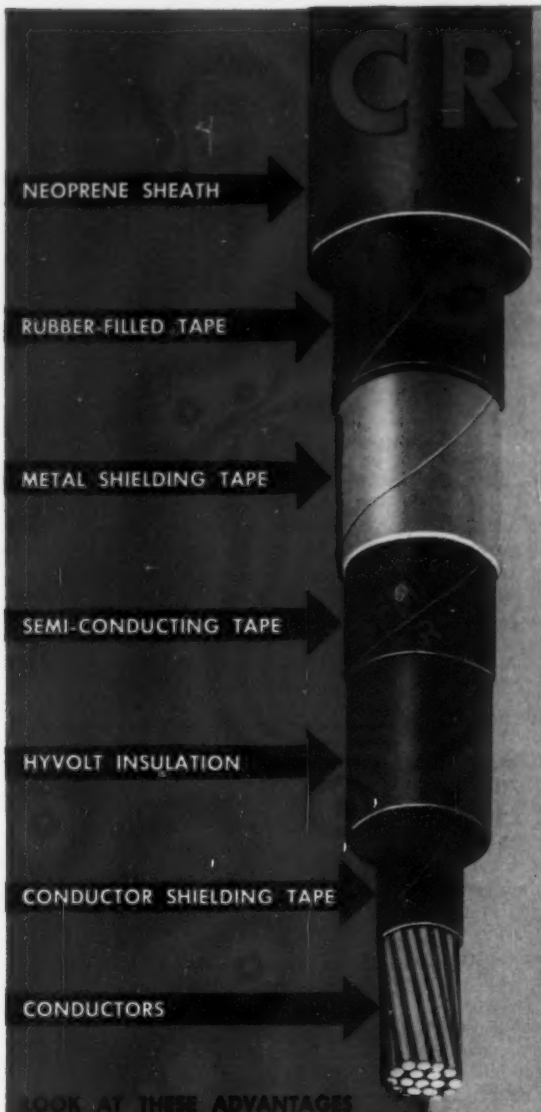
California accounts for 78% of all factory employment along the Pacific Coast. California's best gainer over the past five years was electrical machinery where employment more than doubled. In the same period, jobs in the fabricated metals industry were

Continued on page 96

CRESCENT

HYVOLT SHIELDED POWER CABLE

Gives More Amperes Per Dollar of Installed Cost



CRESCENT HYVOLT insulation is made from butyl rubber which is inherently resistant to ozone, heat, moisture and aging. HYVOLT is formulated and processed so as to retain these inherent characteristics of the butyl rubber and at the same time provide excellent electrical and physical properties.

The insulation is protected during and after installation by an outer neoprene sheath providing a maximum degree of toughness, durability and long life. It is flame retarding and resistant to the deteriorating effects of moisture, sunlight, ozone (corona), oil, grease, and many acids and alkalies.

HYVOLT Shielding provides additional internal and external protection in these THREE WAYS

1 Conductor shielding, as provided by a semi-conducting tape over the stranded conductors, excludes air pockets between conductor and insulation and eliminates possible internal corona-cutting of the insulation.

2 The semi-conducting tape between the insulation and metallic shielding tape prevents possible ionization of air spaces and corona at the insulation surface.

3 The metallic shielding tape is grounded when installed, resulting in zero potential to ground at the sheath. It prevents surface discharge or burning, and protects cable from lightning surges. Reduces shock hazard.

LOOK AT THESE ADVANTAGES

1. Long life.
2. Can be operated at 85°C. Permits smaller conductors or more amperes per conductor.
3. Freedom from corona cutting.
4. Excellent resistance to moisture.
5. Low power factor and dielectric loss.
6. Lighter, more flexible, easier to handle and install than lead covered cables.
7. Electrolytic or chemical corrosion of lead sheath is eliminated by use of neoprene sheath.
8. Shielding prevents possibility of surface burning and provides safety to human life.

RECOMMENDATIONS

CRESCENT SHIELDED HYVOLT CABLE is recommended for use in conduits, underground ducts, in wet or dry locations, or buried directly in the ground, for circuits operated at over 3000 volts and in accordance with I.P.C.E.A. recommendations. Available in single conductor or multi-conductor cables.

Specify CRESCENT SHIELDED HYVOLT POWER CABLE for general power circuits and where severe conditions are prevalent such as chemical plants, refineries, paper mills, mines, sewage disposal plants, etc. It is approved as Airport Lighting Cable Type B, CAA Specification L-824.

CRESCENT INSULATED WIRE & CABLE CO., INC.

TRENTON, NEW JERSEY

ADVERTISEMENT

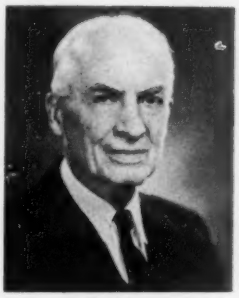
WHY

WAS THIS SYMBOL DEVELOPED?

SEE JANUARY ISSUE OF THIS PUBLICATION

Distributors in the News . . .

Townley Purchases Columbian Electrical



Todd

McGuire

Fuller

KANSAS CITY — The Townley Metal and Hardware Co., Kansas City, Mo. has entered the electrical supply field with the purchase of the Columbian Electrical Co. The purchase of the 67 year-old company was effective November 1st.

Under the new ownership, John D. Todd will be retained as a buyer of electrical supplies. He had been associated with Columbian Electrical for 15 years. A. P. McGuire, employed with the former company for 36 years will be retained as a salesman and will join the industrial sales department. Frank G. Fuller, formerly with Columbian Electrical has also joined the industrial sales force of the new operation, which covers eastern Kansas and western Missouri.

Foley Electrical Completes Reorganization

KANSAS CITY—W. T. Foley Electrical Supply Co., Inc. has completed reorganization plans, according to Clarence L. Steber, president of the Steber Foundation, which is owner of the electrical supply firm.

William M. Spain has been appointed executive vice president of the Foley organization. Jack Hohenshell has been named vice president-sales, and A. H. Rilinger has been appointed treasurer. Mrs. Margaret Hill has been named assistant treasurer and assistant secretary.

Spain and several other key employees reportedly have arranged to purchase a substantial stock interest in the firm and expect to purchase the remainder within the next few years. Steber anticipates that a new building will be started within the next few months to facilitate the expanding operation and that he will remain active in the management of the firm until this program is completed and the stock purchase consummated.

Gross Electric Marks 50th Anniversary

TOLEDO—Gross Electric Co. recently observed its 50th anniversary with a week of events. The company held daily demonstrations of new lighting, electric heating, built-in appliance and hi-fi products in addition to serving cake, coffee and donuts to the public. Another feature of the celebration was an old-fixture contest.

The firm was founded half century ago by the late George J. Gross. Originally called the Toledo Glass Appliance Fixture Co., the company began its operations in a small store with a staff of three. Today it occupies three floors of showrooms, offices and warehouse area, with a branch in West Toledo, and employs nearly 70 people.

Social Notes:

NJ Distributors Attend Annual Dinner-Dance

NEWARK—The Jersey Electrical Distributors Association held its first annual dinner and dance on October 29th. Approximately 350 attended the affair at the Chanticler restaurant in Millburn, N.J.

An unusual aspect of the dinner was the prize awarded at each table. It was a caged floral bouquet which also contained a live parakeet. The winner was determined by a card concealed under one of the dinner plates.

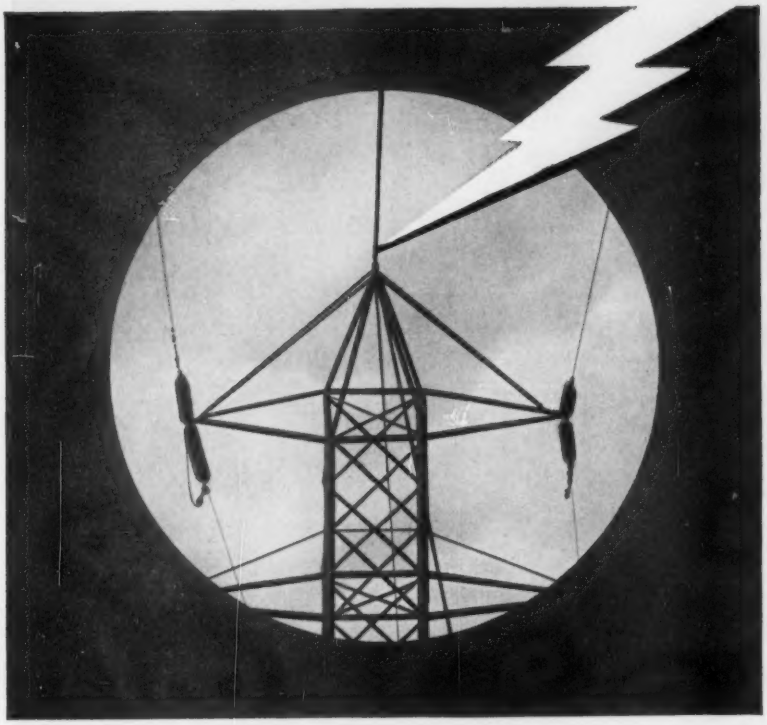
The JEDA is headed by Henry Krug, Reliable Electrical Supply Co., Newark. Other officers are: Roy Knapp, Miller-Knapp, Inc., Nixon, vice president; Irving Slavin, Monarch-Irving Electric Supply Co., Newark, secretary; Irving Hirsch, Somerville Electrical Supply Co., Somerville, treasurer.

Raco has the most versatile and complete line of roughing-in materials you'll find anywhere. Shown here are some representative products of the extensive Raco line. One thing is sure —whatever size, whatever type of box or fitting your contractors require, you have it with Raco boxes and fittings.

Simplify your ordering, inventory and shipping problems—with Raco, the quality source for all your roughing-in materials. Make your next order fast selling Raco fittings and boxes.

RACO

ALL-STEEL EQUIPMENT INC.
Aurora, Illinois



You're on the Safe Side with

CF&I Galvanized Steel Strand

Galvanized Steel Strand is a proven material for grounding power transmission lines. The wire used in CF&I Steel Strand is subjected to rigid quality controls for overhead ground wire and is carefully galvanized, assuring long-lasting protection against corrosive elements.

CF&I Galvanized Strand is made in accordance with ASTM Specification A-363, in seven- or three-wire constructions. For guy, messenger and other applications, CF&I strand is made to ASTM Specification A-122. CF&I is also equipped to manufacture strand to our customers' own specifications.

For quick delivery, contact the nearest CF&I office.

7515-A

CF&I STEEL

GALVANIZED STEEL STRAND
THE COLORADO FUEL AND IRON CORPORATION

In the West: THE COLORADO FUEL AND IRON CORPORATION—Albuquerque • Amarillo • Billings Boise • Butte • Denver • El Paso • Farmington (N. M.) • Ft. Worth • Houston • Kansas City Lincoln • Los Angeles • Oakland • Oklahoma City • Phoenix • Portland • Pueblo • Salt Lake City San Francisco • San Leandro • Seattle • Spokane • Wichita

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CANADIAN REPRESENTATIVES AT: Calgary • Edmonton • Vancouver • Winnipeg

News For The Industry . . .

Continued from page 92

up 18% and aircraft employment posted a modest 8% gain. Employment in California's lumber industry inched ahead slightly, contrary to the industry's downward trend in the region as a whole.

Washington has also turned in some impressive employment gains. Aircraft employment nearly doubled in the past five years, bringing the industry to the number one spot among durable goods employers, whereas lumber had been the largest for many years. But this trend may soon be reversed.

In Oregon, jobs in soft goods industries rose faster than in hard goods, contrary to the performance of the Pacific area generally. On the strength of substantial payroll increases in the food processing, chemical and paper industries, nondurables employment was up 15% while durables employment staged only a 5% gain.

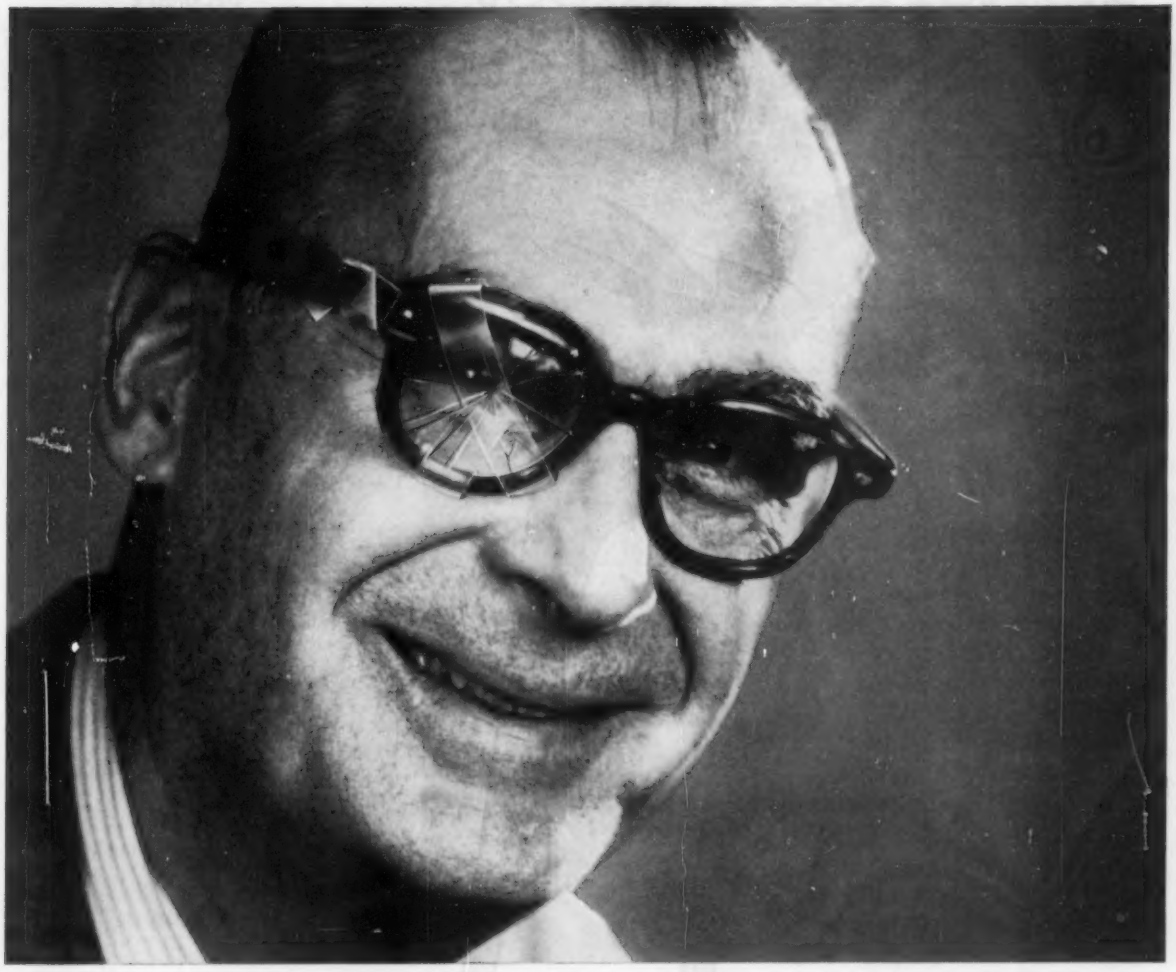
• **Industry In Cities**—In rapidly growing areas, industries are flocking to cities, while in the congested cities of the East, the situation is just the opposite. In general, it is the small and medium-size cities that attract factory jobs while the large cities lose them.

Limited space in the big industrial cities accounts for the lack of growth. But in the rapidly growing cities of the South and West, there is still ample room for industrial expansion.

San Diego showed the largest gain in factory employment, 54%, followed by Los Angeles, which posted a 21% increase. On the other hand, the heavily industrialized cities were the heavy losers of manufacturing jobs. Detroit's factory jobs fell 14%, Chicago's were off 12%, and many smaller industrial cities in New England also had substantial declines.

• **Modest Shifts**—Industrial migration will continue to change the industrial map of the United States. Even so, the years ahead are likely to bring only modest shifts in regional shares of the nation's industry. No one can yet weigh the St. Lawrence Seaway's impact on industrial migration, the importance of the new highway program or the jet cargo fleets traveling from coast to coast. But, in balance, it looks like the relatively slower pace of the past five years will hold for the next five.

Rural homes represent a good percentage of the total market for residential lighting fixtures. The nearly 1,000 rural electric cooperatives service electricity to 4,736,000 homes.



...cracked the paper barrier, too

You'll know what I mean. Working late ordering stock . . . eyes tired . . . dropped glasses . . . hit by idea. I reasoned that since Porcelain Products makes 127 different high quality, time tested, electrical supply items I could save time, worry and money with one purchase order, one acknowledgment, one shipment, one invoice, one check . . . instead of dozens.

Well, you get the idea. Everybody was happy . . . me . . . my office staff . . . the boys in the back room and most important, my customers. (So was Porcelain Products Co. . . . and you should see the service I get.)

Like me, you can get so many top-notch, nationally advertised items from Porcelain Products . . . Mast kits, Wireholders, House brackets, Racks, Spools, Clevises, Copperweld ground rods, Wedge grips, Split bolts . . . items used every day by your customers, the contractors. Since 1894 they've served the electrical industry. Send for complete information on their comprehensive line today. No obligation.

Oh! by the way, I know the actual paper in paper work doesn't cost much, but neither does the actual metal in a watch.

PORCELAIN PRODUCTS CO. 225 N. PATTERSON ST., CAREY, OHIO

America's most "wanted" plier...
CHAN NEL LOCK
No. 420
The "Want Books" . . . and ringing cash registers...of tool suppliers all over America give profitable proof of the growing sales of the Channellock No. 420. Hundreds of thousands of mechanics buy this plier every year. They like its tight grip in tight places... its all 'round usefulness. And you'll like the steady profits of America's fastest selling plier. Stock it... catalog it... display it... and you'll sell it. Send for our new catalog.
CHAMPION DeARMENT TOOL COMPANY
MEADVILLE, PENNSYLVANIA
It's easier to stock just one line of pliers.
It's PROFIT-WISE to stock the genuine CHANNELLOCK line.

CALENDAR OF EVENTS

DECEMBER

Industrial Building Exposition & Congress
Coliseum
New York, N. Y.
December 12-15

JANUARY

National Association of Electrical Distributors
Southern Region Meeting
Palm Beach Biltmore Hotel
Palm Beach, Fla.
January 8-11

National Housewares Exhibit
Lakefront Exposition Center
Chicago, Ill.
January 16-20

17th Annual Convention & Exposition
National Association of Home Builders
McCormick Place
Chicago, Ill.
January 29-February 2

American Institute of Electrical Engineers
Winter General Meeting
Hotel Statler
New York, N. Y.
January 29-February 3

FEBRUARY

Intermountain Electrical Association
Annual Conference
Hotel Ben Lomond
Ogden, Utah
February 2

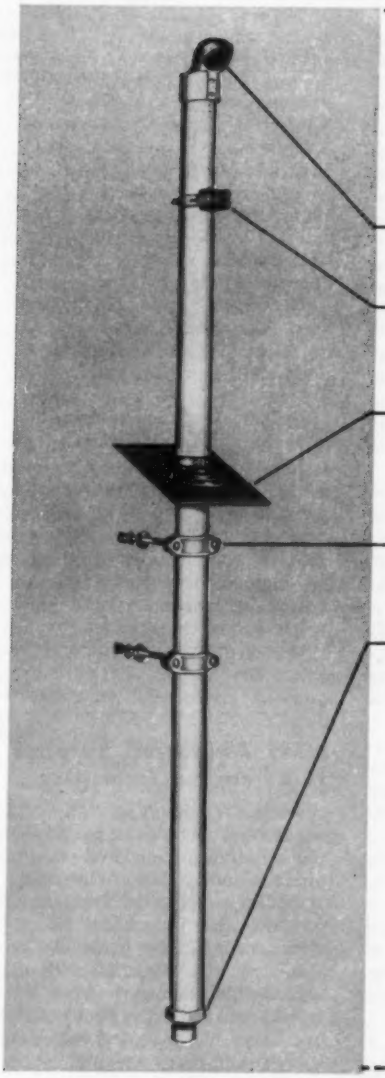
National Electrical Week
February 5-11

Electrical League of New York
National Electrical Week Luncheon
Sheraton-Astor Hotel
New York, N. Y.
February 7

National Rural Electric Cooperative Association
19th Annual Meeting
Dallas, Texas
February 13-16

INSTALLED FAST
BUILT TO LAST

Blackhawk Service Entrance Mast Kits better from top to bottom



FIVE GOOD REASONS

why a Blackhawk kit means a faster, better installation from cable entrance to meter. May be purchased as a complete kit or as separate fittings.

Slip-fitter service entrance head — Just slip it on over conduit and tighten two set screws. That's all — nothing to cut, no extra parts to handle. Made of corrosion-resistant ductile aluminum. Available in a full range of sizes.

Insulators — Reinforced, durable, well-rounded porcelain secured to metal pipe mounting clamp — clamp bolt and nut included, hot dipped galvanized. Special V-grip fitting holds mounting rigid. Pull-off fitting available uninsulated.

Flexible Synroflashing — Absolutely leakproof. Made of flexible neoprene to absorb mast vibration due to wind and cable sway. The mast can't work loose, damage shingles, or give moisture a place to seep in. Won't rot, peel or crack in any weather. Shingles fit easily over Synroflashing. Metal clamp seals collar to mast for permanent, weathertight fitting. Synroflashing is available for 1¼, 1½, 2, 2½ and 3 inch pipe.

Mounting brackets — Blackhawk's new combination bracket accommodates 1¼, 1½, 2, 2½ and 3 inch pipe. It is available with ½ inch thru bolts or with lag screws. A truly universal pipe mounting bracket.

Offset reducer — Corrosion-resistant aluminum alloy. Threaded to fit 1¼ and 1½-inch meter hubs to a 2-inch or 2½-inch pipe riser and 2-inch hub to 3-inch pipe riser.

Blackhawk Industries

The better-made parts in a Blackhawk kit let you do a fast and sound job on every service entrance mast installation. Saves you time, builds your reputation for quality and service.

Specify B-I when you buy!

where the new ideas come from
DUBUQUE, IOWA

ADVERTISEMENT

New Plants and Equipment:

Business Plans To Spend $35.1 Billion in 1961

NEW YORK—American business now plans to spend $35.1 billion on new plants and equipment during 1961, reports the McGraw-Hill Economics Dept. This figure is only 3% less than will be spent this year. Preliminary plans indicate that expenditures in 1962 will approximate those for next year.

The McGraw-Hill report is not a forecast, but rather an indication of what companies plan to spend. The actual course of spending will depend on the general economy, profits and government policy. But the high level of capital investments now planned indicates a strong prop for the general economy in the year ahead.

The economic check-up has revealed that since the spring, well over $1 billion has been trimmed from this year's capital expenditures. However, some plans for spending have been shifted to 1961 and 1962 rather than actually being cut out of budgets. Now, the level of planned spending for business for the next two years appears higher than indicated last spring.

• **'61 Spending**—According to present plans, manufacturing industries as a group will spend $14 billion on new plants and equipment next year. This is about 3% less than will be spent this year. The current low level of business activity has apparently caused some changes in manufacturers' spending plans. Their plans for 1961 are now slightly below those indicated earlier this year.

Electrical machinery companies are planning the largest spending increases (10%) next year. However, the electrical machinery industry will spend considerably less this year than planned and they are apparently pushing these deferred plans into 1961.

The largest spending decline (—12%) in the metal working industries is planned by the "other metalworking" industries—fabricated metals and instruments.

Non-manufacturing industries, as a group, indicate a slightly lower spending next year. However, electric and gas utilities plan a 4% increase.

Commercial businesses also report that they plan to increase spending slightly next year.

• **'62 Outlook** — Manufacturers' plans for spending in 1962 are already close to those for next year. About half the manufacturing industries indicate they now plan to spend more in 1962 than had been anticipated earlier this year. Nearly $500 million has been added to their proposed 1962 budgets since last spring.

• **Capacity Figures** — Operating rates of every manufacturing industry —except rubber—were lower in September than at the end of last year. Manufacturers on the average were operating at 79% of capacity in September. Except for the end of 1957, this is the lowest operating rate recorded since 1954.

Sales

INDUSTRY	% Change Expected 1960-1961
Iron and Steel	2%
Nonferrous Metals	4
Machinery	5
Electrical Machinery	3
Autos, Trucks and Parts	0
Transportation Equipment	—4
Other Metalworking	5
Chemicals	3
Paper and Pulp	5
Rubber	3
Stone, Clay and Glass	0
Petroleum & Coal Products	3
Food and Beverages	4
Textiles	1
Miscellaneous Manufacturing	3
ALL MANUFACTURING	3

• **Sales** — Manufacturers, reporting to the McGraw-Hill survey, expect sales to be better next year. As a group, they anticipate a 3% gain in physical volume sales in 1961. Highest increases expected (5%) are reported by machinery, and pulp and paper producers.

NEWS

NEW Animated Symbol Is Retracted From Use

NEW YORK—The National Electrical Week Committee has announced the withdrawal from promotion use of an animated symbol of electricity. The symbol appears in the Planning Guide and on other promotion pieces. The announcement was made due to the similarity of the symbol with that of the Reddy Kilowatt trade symbol owned and used by Reddy Kilowatt, Inc. and its several hundred utility company licensees.

The committee has issued the following notice:

• That the animated symbol of electricity must not be reproduced in any manner on any material used by participants in National Electrical Week at any time now or in the future.

• That any reproduction sheet of the Committee's symbol be promptly destroyed.

Third Quarter Report:

Corporate Earnings Top Strike-Hit '59 Period

NEW YORK—Corporate profits in the third quarter of this year were up from a year earlier, after being down in the second three months, according to a financial survey. The survey also suggests earnings in the fourth quarter may come close to equaling those of the final 1959 period. Several factors account for these relatively favorable third and fourth quarter comparisons. One is that profits in the second quarter of 1959 exceeded by a substantial margin those of any three-month period before or since, making this year's second quarter look poor by contrast. The other is that in last year's final six months, profits not only lost their second-quarter steam, but were also depressed by steel and copper strikes and by the effects of these strikes on other industries.

Contributing heavily to the better third-quarter relationship of profits to sales was the oil industry, which showed a gain in earnings over 1959 for the third quarter of 13.2%, compared with only 3.5% in the second quarter. The third-quarter profit gain over 1959 was accomplished on a sales increase of only 1%, a study of those that reported gross revenues indicates. This result stems largely from energetic cost-cutting efforts of the oil industry.

Among other industries whose third quarter profits compared favorably with those of a year earlier was the metal and mining group, whose profits jumped 94.3%. **Major reasons for the big gain: The price of copper this year was 33 cents a pound against only 30 cents a pound for much of the 1959 period, and the mines were on strike for half of the 1959 quarter.**

Here's how a number of industries fared in the third quarter and may do in the fourth:

• **Building Materials:** Suppliers' profits in the third quarter dropped 15.2% from 1959 in the third quarter. And contracts for new construction, which give clues to future sales of cement, lumber and other building materials, suggest no change in trend for the fourth quarter.

New building contracts awards have been sliding off every month since July, the 1960 high.

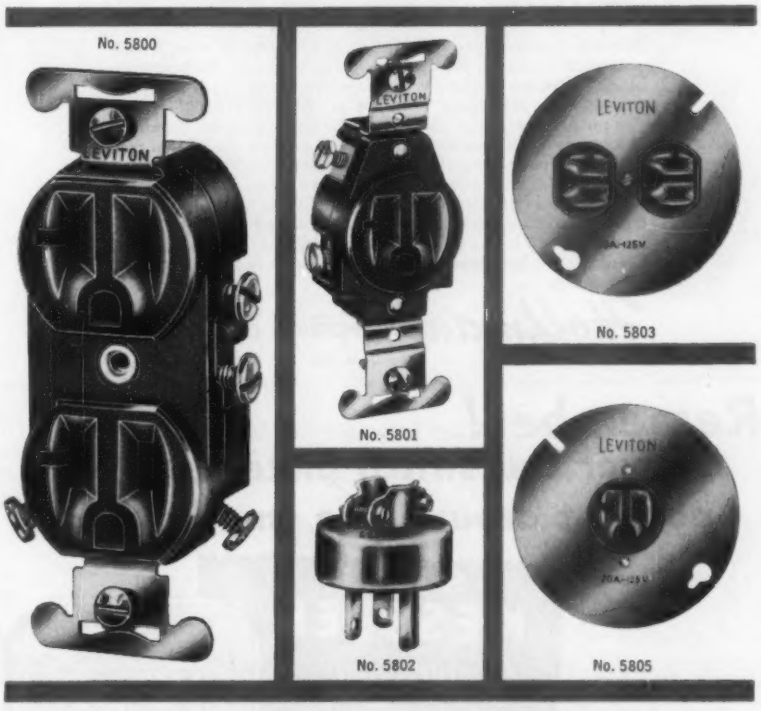
• **Metal and Mining Companies:** Profits in the fourth quarter will benefit from comparison with a period last year when the copper mines were on strike. But the pace of earnings will slip from that of the third quarter, during which the price of copper was 33 cents a pound; it is now 30 cents a pound. Aluminum

OUTLET

CAP

NEW
LEVITON
5800 SERIES
20-AMP.
GROUNDING
DEVICES

to meet latest N.E.C. CODE



The revised N.E.C. Code requires 20-amp 125-volt grounding-type wiring devices for added safety. Now LEVITON brings you the 5800 Series of receptacles and caps to meet this new Code, and can be used for heavier rated appliances in kitchens, laundries, workshops, exteriors—as well as commercial office equipment and maintenance use. These devices provide adequate wiring for future heavy duty appliance requirements.

Receptacles in this series fit shallow boxes and accommodate standard wall plates. They accept all standard 125-volt, 15-amp and 20-amp caps, both 2-wire and 3-wire types, making these outlets universal. Every device meets applicable NEMA, ASA and Federal specifications, and is listed as standard by Underwriter's Laboratories and CSA.

A popular device at a popular price

LEVITON

LEVITON MANUFACTURING CO., INC., BROOKLYN 22, N. Y.

Chicago • Los Angeles • Montreal, Canada

Contact AMERICAN INSULATED WIRE CORP., Pawtucket, Rhode Island, a Leviton subsidiary, for a complete line of insulated wire and cable products

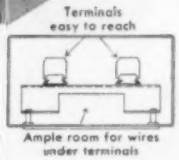
NEW

OIL-TIGHT DUST-TIGHT

J.I.C. Terminal Box

Complete with Terminal Blocks (or brackets only)

Designed for faster, easier wiring



Famous trade-approved Hoffman JIC box is now available with new time-saving mounting brackets for terminal blocks that leave plenty of space for wires . . . and make wiring easy wherever conduit connections are located.

Equipped with medium duty, sectionalized terminal blocks; or with brackets only—you mount your own terminals. Blocks mount on steel straps. Additional straps may be added at a later date if more circuits are needed.

Boxes are completely oil and dust tight with JIC screw clamps to close gasketed covers. Standard box sizes range from 8"x6"x3 1/2" to 16"x14"x6" offering 16 to 64 terminals. Similar terminal system also available in large NEMA-12 enclosures.

Hoffman ENGINEERING CORPORATION

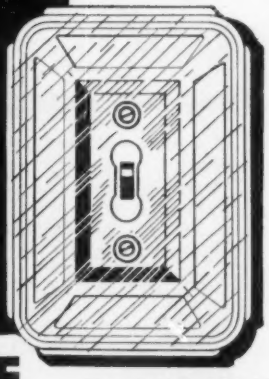
Dept. EW 161, Anoka, Minnesota

Remember!

I cover the switch plate, too . . .

not just around the smudgy plate!

SELL KESSLER sparkling transparent PLASTIC WALL PLATE SHIELDS PROTECT WALL and PLATE



RIGID, HEAVIER-GAUGE

PLASTIC PLATE

. . . hugs the wall for complete, permanent, dust-free protection. Won't discolor . . . plate and wall always look new. Smooth edges and rounded corners protect fingers and sleeve edges.

The ONLY Shield that covers the plate as well as the wall.

Sizes to fit all types of outlets and switches.

Terrific Profit-Maker Since 1938

Kessler Mfg. Co.

2517 N. Elston Ave. Chicago 47, Ill.

company earnings in the third period were down because year-earlier customers were stocking up on the metal in fear of a strike that never came.

• **Electrical Equipment:** Of 16 electrical equipment manufacturers contacted, earnings for the third quarter of 1960 totaled $92,552,000, a drop of 9.2% from last year's figure for the same period of $101,960,000.

• **Steel:** Steel mills recorded losses for the third quarter of 1959 and thus were able to report a great improvement this year, with results in the black. For the final three months of the year, comparisons with a year earlier will be aided by the fact that the strike last year didn't end until mid-November, but profits this year will be held down by wage boosts that go into effect December 1st.

Electronics:

Electrical Contractors Called Key To Growth

LAS VEGAS—Outlining opportunities in electronics, Robert L. Kempton, marketing vice president for Edwards Co., Inc. told a group of the nation's leading electrical contractors they **"could become the key marketing influence in the entire industry."**

"But," Kempton cautioned his audience, "the electronics business is not simply for the asking, it will have to be taken!"

Speaking before the 59th anniversary convention of the National Electrical Contractors Association, Kempton described the electronics field as a market the contractor must enter now, in order to grow and prosper in the future.

• **Two Steps**—There are two steps contractors must take to enter the fast-paced electronics field, Kempton said. First, they must broaden their base of operations, gearing up for the new market with necessary men and tools. Once equipped, the second step is "to apply a little imagination and lots of sell."

He placed the total electronics market at approximately eight billion dollars, explaining that "approximately 1.2 billion dollars of the total is marketed through procedures similar to those used for fairly complex electrical products. This dollar figure represents the immediate market contractors can capture and includes commercial, industrial and residential sound, controls, security systems and communications."

Though the market is big—and growing—Kempton told the NECA group that the biggest obstacle they would encounter in the electronics field would not be in technical areas. "Overcoming human resistance to

change is the greatest obstacle to be cleared. But it is a fact of business life that all of us must change to keep pace.

"Someone—whether it's Edwards or its competitors—will make the newer electronic products . . . and somebody is going to have to sell, install and service them. I, for one, believe this business can go through the electrical contractor."

Speakers To Address Industrial Building Show

NEW YORK—Sixty-one speakers, representing virtually every type of industry, will address sessions of the first Industrial Building Exposition & Congress in New York, December 12 through 15.

The show and conference are said to be the first ever staged to meet the needs of companies building new plants or modernizing existing structures. About 100 exhibitors will show products and services for industrial buildings of all types.

New York Site Of 3rd National Lighting Show

NEW YORK—This city will be host to the 3rd National Lighting Exposition on March 5 thru 8, and a record attendance is forecast. 25,000 people are expected. Among them will be architects, lighting consultants, engineers, decorators, contractors, and distributors. Subjects to be covered will include: new light sources of the industry; residential lighting; outdoor and street lighting, and success of the new recommended higher foot candle levels, office, industrial, institutional.

The four-day event will be held at the New York Coliseum.

Housing Starts Down In September

WASHINGTON, D.C.—Work was started on 103,400 housing units in September of this year according to preliminary estimates of the Bureau of the Census, U.S. Department of Commerce, in comparison with the 129,000 units started the previous month, and the 140,000 units started in September, 1959.

Nonfarm housing starts in September amounted to 101,300 units, down 21% from August and 26% below September 1959. Privately owned nonfarm starts numbered 95,700 units, representing a seasonally adjusted annual rate of 1,054,000 units, down 17% from August and 28% below the September, 1959 estimated rate of 1,468,000.

HOW GOOD IS... AN IMITATION Amp-trap®?

for 600 Volts or less

Amp-trap®

VS IMITATIONS

Amp-traps are *our* products. We originated and developed them. We alone manufacture them. They are so good that others are now imitating them. This is flattering because it indicates Amp-trap is superior. But, don't be confused by imitations.

Amp-trap®

VS SUBSTITUTES

"Just like Amp-trap." "As good as Amp-trap." "Works like Amp-trap." "Better than Amp-trap." These are the deceptive phrases that imitators must use. Without them they can neither explain nor sell their substitutes.

NOTHING TAKES THE PLACE OF

Amp-trap®

Whenever you *need* Amp-trap, you *want* Amp-trap — not an imitation or a substitute. Amp-trap is a very special current limiting device with high interrupting capacity. Regardless of claims, imitations aren't enough. More than 27 patents prove it. *Nothing takes the place of Amp-trap!* For your own protection specify Amp-trap. Then — make sure you get it.

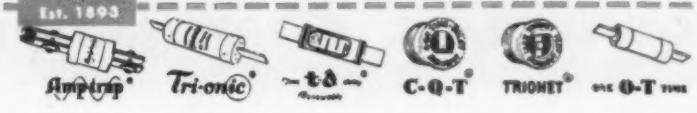
Amp-trap® – *Awake At The Switch*

REGISTERED UNITED STATES PATENT OFFICE Est. 1893

THE CHASE-SHAWMUT CO.

374 MERRIMAC STREET • NEWBURYPORT, MASSACHUSETTS

Subsidiary of I-T-E CIRCUIT BREAKER CO.



BUY ARMSTRONG THERMOSTATS

Direct from Factory

FOR AS LITTLE AS

No Sales to OEM Accounts!

4.95

● Direct sales to distributors only (no OEM) gives you extra profits on Armstrong top-quality controls.

Write to factory today for full particulars!

C.E. ARMSTRONG CO.

125 E. Hereford Street Gladstone, Oregon

EEI Conducts New Electric Heat Campaign

NEW YORK—The Edison Electric Institute will kick off a new campaign for electric house heating this month, according to an institute report. Ads will appear in many national publications. The creative approach is based on the cleanliness of electric house heating. Illustrations will show a woman's hand, touching a lacy white handkerchief to such dust-catchers as venetian blinds and flower leaves, with a headline: *Look how clean flameless electric house heating keeps the modern home.*

W. M. Shepherd, chairman of EEI's Live Better Electrically Policy Committee, said about half the ads will be on heating exclusively, while the others will feature heating as the central idea in total electric living.

The heating campaign will cost slightly more than $1,000,000, Shepherd disclosed. "Electric house heating is the heart of our campaign to promote the total electric living concept," he added. About 850,000 U.S. homes are now heated electrically. He said that, in the last year, the number of U.S. homes heated electrically jumped about 40%. Estimates of electrically-heated homes by 1970 run from 4,000,000 to 6,000,000.

POWERCRAFT
PRIMARY
BUS SUPPORTS

STOCKS
FOR IMMEDIATE SHIPMENT

• Contractors, Industrials, and Utilities rely on the accuracy of these Bus Supports to meet exacting service conditions. Available for Indoor and Outdoor Service — flat or pipe mounting. Conform to NEMA standards. POWERCRAFT invites your inquiries on any special Bus Support requirement. Other POWERCRAFT Products . . . Indoor and Outdoor Disconnecting Switches, Bus Clamps, Power Connectors, Pipe Frame Fittings for 1¼" I.P.S. Pipe, and Clamp Insulator Supports.

SEND FOR NEW CATALOG.

POWERCRAFT CORPORATION

2215 De Kalb St. *Phone Prospect 6-4532* ST. LOUIS 4, MO.

Since 1922

Two New Minerallac Quality Products Designed for Jobs Too Heavy for Standard Jiffy Clips

MINERALLAC
Heavy Duty AND Medium
JIFFY CLIPS

Made of heavier materials! Has exclusive inverted rib, that provides more strength at the bend of clip . . . and, of course, adds the benefits of famous "Snap On" feature!

In stock in Zinc-Plated Steel for Thin Wall or Rigid Conduit up to 6". (Hot Dipped Galvanized may be obtained on order) Can be substituted for malleable clips.

Order From Your Electrical Wholesaler

SEND FOR LITERATURE

MINERALLAC ELECTRIC COMPANY

25 North Peoria St. Chicago 7, Ill.

MINERALLAC

PEOPLE IN THE NEWS

John S. Blackburn has been elected chairman of the Steel Group, Rigid Metallic Conduit and Electrical Metallic Tubing Section, of **NEMA.** Blackburn succeeds **A. A. Snowball,** vice president, Pittsburgh Standard Conduit Co. **R. C. Bennett, Jr.,** president, Wheatland Electric Products Co., has been elected vice chairman of the group to succeed **J. H. Collier,** Youngstown, Ohio, president, Steelduct Co.

Charles W. Watson has been appointed vice president-general administration of the **Philadelphia Electric Co.** He was formerly assistant to the president.

Michael T. Regan has been appointed general sales manager of **Columbia Cable & Electric Corporation,** Brooklyn, N.Y.

Frank Cody has been named regional manager of the **Progress Manufacturing Co.'s** southeastern sales region. His region covers the states of Florida, Alabama, and Georgia.

Clarence H. Hopper has been named president of **CBS Electronics.** Hopper succeeds Arthur L. Chapman who will join the headquarters staff of CBS in New York. Chapman continues as a vice president of Columbia Broadcasting System, Inc.

Robert Gand has been appointed director of merchandising for the Benjamin division of **Thomas' Industries Inc.,** Louisville, Ky.

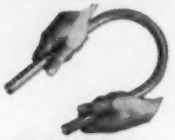
John N. Hutson has been named North Central regional manager of **Federal Pacific Electric Co.** Previously, Hutson was Birmingham, Ala., district sales manager.

Lawrance W. Wightman has been appointed assistant to the vice president in charge of operations of **Emerson Electric Mfg. Co.** He will be responsible for manufacturing research and development for Emerson's Commercial Div.

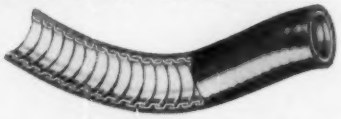
Robert Miller has been appointed sales manager of the Cleveland office and warehouse of **Cornell Cables Inc.** Miller joined the firm in 1958 as a salesman.

Phil K. Donnelly has been appointed district manager of the newly established Denver district sales office of the **Federal Pacific Electric Co.** He was formerly district manager of the company's Indianapolis office.

INSTALLATION AS FAST
AS WITH REGULAR
FLEXIBLE CONDUIT



PROTECTION AS SURE
AS RIGID
CONDUIT



LIQUATITE®

EXTRUDED POLYVINYL JACKET MOLDED
TO GALVANIZED FLEXIBLE CONDUIT

Complete protection against any and all contamination—impervious to water, oils, chemicals, corrosive atmospheres. Installed in minutes. No more "downtime" due to wiring shorts or burnouts, no more periodic wiring replacements.

Type LT JIC Approved
Type LA
Underwriters' Approved

Write for free sample, costs and name of Distributor nearest you.

ELECTRI-FLEX COMPANY
P. O. BOX 128-A • ROSELLE, ILLINOIS

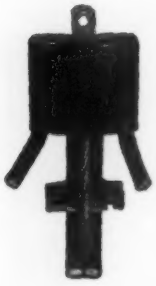
Elmer Winkeljohn has been named to head the industrial sales department of **Gross Electric,** Toledo, Ohio. wholesale division. He has 35 years experience as a sales representative in the electrical industry.

Charles L. Amick has been appointed director of research and development division, **Day-Brite Lighting, Inc.,** St. Louis, Mo. **Richard D. Bradley** has been named manager of the Technical Services Dept., and **Murray L. Quin** has been appointed manager of the Product Research Dept. Both departments are newly established within the R & D division.

Charles L. Costa has been named field manager of the Product Service Division of **The Black and Decker Mfg. Co.** He will headquarter at the Towson, Md. office.

John C. Fitzmaurice has been appointed Metropolitan New York sales manager for electronic components of **General Electric's** distributor sales operation. He was former sales manager for the Brooklyn-Long Island district.

James J. Phelan has been appointed purchasing agent of **The Thomas & Betts Co.**



Now! M & W Electric
100-150-200 Ampere
Service Entrance Fittings

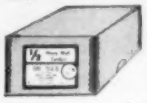
Meet the ever-growing demand for larger service entrance requirements — use entrance cable with M&W ENTRANCE FITTINGS. These include: Entrance Heads, Straps, Watertight Connectors, Non-watertight Connectors and Sill Plates. Available are a complete line of fittings for cable sizes 3 No. 3 to 3 No. 4/0 using 1", 1¼", 1½" or 2" hubs.

Send for New No. 59 illustrated Price Sheet with complete details.

M&W Electrical Fittings
The M. & W. ELECTRIC MFG. CO., Inc.
EAST PALESTINE, OHIO

THEY STAY ON.....
All VICTOR "MAGIC" CLAMPS and STRAPS for Thin and Heavy Wall Conduits have this time-saving snap-on feature.

Contractors everywhere are switching to VICTOR. Cash in on this heavy demand. Add these fast selling, profitable Clamps and Straps to your line.



VICTOR products are neatly packed, clearly and attractively labelled. Orders for stock items shipped within 24 hours.

Write for the new Victor Strap Catalog. Lists over 600 items to fasten Wire, Cable, Tubing and Conduit.

VICTOR SPECIALTIES, INC.
775 MAIN ST., NEW ROCHELLE, N.Y.
The Greatest Single Source for Clamps and Straps

NEW LITERATURE

Lighting—New edition of the Westinghouse "Lighting Handbook" is available from Westinghouse lamp division, Bloomfield, N.J. Book contains comprehensive coverage of the general field of modern lighting practices. Included in 250-page pocket-size manual is fold-out page in full color of electromagnetic spectrum, information on distribution and light measurements, etc. Price is $3.00 prepaid.

Voltage Regulators—More than 2,000 voltage regulator models are described in new handbook. Catalog offers vital information in selecting and using regulators in DC power supply design. Copies available from Raytheon Co., Power Supply and Voltage Regulator Operations, Keeler Ave., South Norwalk, Conn.

Industrial Lighting—New bulletin, B76, gives details on portable industrial lighting. Booklet shows how lamps, extensions, sockets and other unitized assemblies can be used for industrial applications. Twelve page illustrated bulletin provides information on types, construction details and varieties of stock components from which individualized portable lighting systems can be assembled. Available from Joy Mfg. Co., Electrical Products Div., 1201 Macklind Ave., St. Louis 10, Mo.

Busway—A new 100-amp packaged busway for installation in industrial and commercial buildings is described and illustrated in a catalog produced by National Electric Div., H. K. Porter Co., Inc. Construction features are shown and suggested applications are listed. Catalog contains complete dimensional data, catalog numbers and price information. Catalog No. 698 is available from the company in Pittsburgh, Pa.

Electric Heat—Information on new infrared comfort heating is available in Bulletin CH-100 from the Fostoria Corp., Fostoria, Ohio. Typical applications and dimensions are included in booklet.

Lighting — The importance of improved lighting in textile mills is the subject of a 12-page, two-color booklet by the Large Lamp Department of the General Electric Co. Titled "Higher Profits Through Better Textile Lighting," the booklet establishes that better lighting means such benefits as increased production, reduced costs. etc. Copies may be obtained by writing the Inquiry Bureau (EH-60), General Electric Co., Nela Park, Cleveland 12, Ohio.

Help Your Customers Save
RIDGILR
From $25 to $450 a year
on Oil Alone . . . with a
RIDGILR!
How much oil do they use each day threading pipe, rod or conduit by hand or power drive?
One-half pint? One gallon? If it winds up on the floor, they're spending somewhere between $25 and $450 a year just for the privilege of cleaning up oil.
The RIDGILR saves that money for them . . . lets them use all the oil they should!
• Ends Oil Waste and Messy Floors—Costly oil is double screened and re-used again and again.
• Lengthens Die Life—Well oiled dies last longer, stay sharper . . . gives cleaner threads for fast, easy installation.
The easy-to-carry RIDGILR comes complete with a screened chip pan, circulating oil reservoir and hose-connected hand pump-gun. Stock it . . . show it for easy sales. You'll be glad you did!
Costs Only $23.20
with 2 gallons of RIDGID Thread Cutting Oil!
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DARK
THREAD CUTTING OIL
RIDGID Dark and Nu-Clear Thread Cutting Oils are available in convenient (4 ounce Nu-Clear only), 1 quart, 1 gallon, (2 gallon Nu-Clear only), 5 gallon, 30 gallon and 55 gallon containers.
RIDGID
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ADVERTISEMENT

WHEN

WILL THIS MEAN PLENTY TO YOU?

SEE JANUARY ISSUE OF THIS PUBLICATION

Limit Switches — Four page, 2-color catalog digest on heavy duty and precision limit switches is available from R. B. Denison Mfg. Co., 386 Broadway, Bedford, Ohio. Bulletin 701 gives operating data, ampere ratings, principal lever styles, dimensional data and ordering instructions.

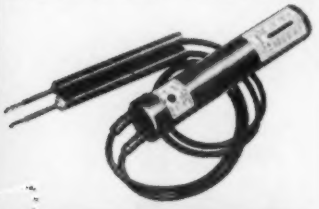
Wireways—New 16-page catalog, No. 159-D describes JIC and NEMA type 12 wiring installation equipment. Catalog describes and illustrates complete line of wireways, fittings and enclosures. Complete data for all items includes dimensional drawings and exact specifications. Catalog is available from Keystone Mfg. Co., 23328 Sherwood Rd., Warren, Mich.

Utility Motors—Bulletin GEA-7038, 6-pages, gives detailed information on selling utility motors. Booklet discusses markets, sources of supply and customer benefits. Available from General Electric Co., Schenectady 5, N.Y.

Raceway — Headerduct cellular floor feeder raceway is described in new catalog from Wheatland Electric Products Co., Carnegie, Pa. Catalog contains product illustrations and detailed information for specifying and installing headerduct and service fittings.

KNOPP

VOLTAGE TESTERS*



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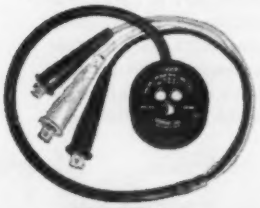
PHASE SEQUENCE INDICATORS*



KNOPP INC.

1307 66th St., Oakland 8, Calif.

*Profitable to Stock and Sell

This KEY

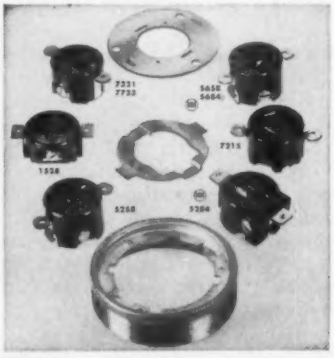
Does Away with EAR CLIPPING

You asked for it—And now it's here—for our #190—NR Series

FULLMAN'S *Adjustable* STEEL BOX

190-N R Series
No Receptacle

A standard 4" octagon, brass-topped watertight floor box 2½" deep with brass adjusting ring permitting ½" height adjustment in addition to three screw legs 2½" long.
Box-body has 3¼" opening, making it easy to get hand into for conduit attachment or wire pulling.
Concrete can be poured to very top, also to box-body height only. A second tin lid is provided.
Fits most popular styles and size receptacles.



TO INSTALL—Drop the "KEY" into special slots built into adjusting ring—select the receptacle required and simply "LAY-IN"; then "LAY-ON" receptacle ring. This has been added at no extra cost. Very easy to install.

Sales Representatives in all principal Cities

QUALITY LATROBE PA.

Fullman

MANUFACTURING COMPANY

1209-1215 JEFFERSON ST.
LATROBE, PENNSYLVANIA

OBITUARIES

Dr. W. R. G. Baker

Dr. W. R. G. Baker, internationally known as one of the leading pioneers in the field of electronics, died on October 30. He was 68. Dr. Baker was formerly a vice president of the General Electric Co. It was under Dr. Baker that the company established Electronics Park on a 200-acre site in Syracuse, N. Y. as a research and manufacturing plant and as headquarters for its electronics business.

Albert W. Nystrom

Albert W. Nystrom, 63, purchasing agent and a director of Buffalo Electric Co., died Nov. 1. He was associated with Buffalo Electric for 32 years and was part owner of the electrical wholesaling firm. He served as purchasing agent for more than 25 years.

C. E. Lytle

C. E. Lytle, general manager, Southern Minnesota Supply Co., Mankato, Minn. died on October 27. He had been for many years an outstanding figure as a distributor in the Upper Midwest. For the past ten years he has represented that branch of the industry on the board of directors of the North Central Electrical League.

Walter E. Daw

Walter E. "Blackie" Daw, well known manufacturers, representative, died recently at the age of 64. Daw was headquartered in Syracuse, N.Y. and covered northwestern New York. He was a member of the Electrical League of New York.

Control Switch Enters Electroluminescence

FOLCROFT, Pa.—Control Switch division of the Controls Company of America has announced it is currently producing a line of electroluminescent panels. The company is producing panels of all plastic construction.

Developed primarily for use as instrument panel boards in military and commercial aircraft, present production output is being utilized in electronic counter-measure equipment on aircraft.

The individual panels now in production are available in sizes up to 12 in x 12 in but can be designed for assembly to fit larger or smaller area requirements.

Many years of sound engineering and field testing are built into the advanced design of all Furnas Electric products, to provide the leading motor controls on the market today

Furnas Electric standardized design and *exclusive "in-between" starter sizes* reduce stock inventory and allow wider application with fewer units. You are assured of superior performance, longer life and unmatched economy.

SEE FOR YOURSELF! Write today for Portfolio 5412 — 1069 McKee Street, Batavia, Illinois. A87

MAGNET ASSEMBLY

Magnet features just one moving part. Dual voltage coils, 110-220, or 220-440 volts at no extra cost.

THERMAL OVERLOAD RELAYS

Trip-free. Manual or automatic reset. Third overload relay kit can be added in the field.

CONTACT BLOCK

Non-tracking, impact-resistant material. Visible and front removable silver-cadmium oxide contacts. Extra switchlets can be added to either side.

MODIFICATION KITS

Include push button, selector switch, pilot light, and third overload relay for quick and easy field modification. Starter inventory is simplified and reduced.

FURNAS

Sales Representatives in All Principal Cities

FURNAS ELECTRIC COMPANY

BATAVIA, ILLINOIS

An Index of Articles

Here's a listing of all the articles that appeared in Electrical Wholesaling in 1960. Why not clip it and keep it handy for easy reference when you're seeking particular answers to your selling questions?

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The Power of Positive Selling Feb., p. 44
Five sales qualities help City Electric's Jim Stockdale sell appliances.

The Art of Being Versatile ... Apr., p. 116
Smith-Perry's J. B. Welch is much more than quotation manager.

What it Takes to Sell Steel Kitchens May, p. 54
Personal and detailed customer contact is profitable for Larson Electrical.

It Takes a Special Tack to Sell Utilities ..... June, p. 72
How Twin State used six maxims to crack the utility market.

Engineering Know-how Pays Off at the Point of Sale ..... July, p. 42
Mill-Power puts engineering service to use to obtain profitable sales.

Distributor Enterprise Sells Engineered Installations ..... Aug., p. 58
Townsend Hardware's engineering alertness increases profits.

Recreation Market Builds Sales Sept., p. 80
Pine State finds good opportunities in calling on customers in recreation areas.

Church Lighting Is an Art .. Sept., p. 85
A knowledge of architecture is an assist for Reliable Electrical Supply.

A Box That Sets the Stage for Creative Lighting Sales ..... Sept., p. 96
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Woman-sense Salesmanship Pays Off in the Showroom ..... Sept., p. 98
A woman's artistic sense has provided more residential business for Elgee.

Looking for Challenging Lighting Sales ..... Sept., p. 103
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20-Hour Electrical Course .... Jan., p. 104
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Class of 1959: Gallery of Grads. Feb., p. 48
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20-Hour Electrical Course Test Mar., p. 78
Here's another chance to test your electrical knowledge.

They're Putting 'Meat' Into Sales Meetings ..... Aug., p. 56
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Class of 1960: Grads Gallery . Aug., p. 64
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Everyone Sells Industrial Electronics Mar., p. 62
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Succeeding In The 60's ..... Apr., p. 83

Top Drawer Customer Service And Treatment Pay Off ..... May, p. 66
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We Took the Bull By the Horns May, p. 70
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It Takes a Special Tack to Sell Utilities ..... June, p. 72
How Twin State used six maxims to crack the utility market.

It's Easy to Get into Electronics Jul., p. 40
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Mill-Power puts engineering service to use to obtain profitable sales.

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Concentration Adds Volume to Apartment Lighting ..... Sept., p. 70
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Big Plant Calls for Big Job . Sept., p. 73
How Battey Machinery made a large sale to a textile mill.

Making Lighting Sell Itself .. Sept., p. 74
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Utility Aids, Plus Sales Persistence Equals Profits ..... Sept., p. 78
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Recreation Market Builds Sales Sept., p. 80
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The Right Approach to Home Lighting Sales Profit ..... Sept., p. 82
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Promotion Plus Fair Prices Are Keys to Lighting Profits ..... Sept., p. 86
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A Box That Sets the Stage for Creative Lighting Sales ..... Sept., p. 96
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Keeping Salesmen Lighting-Conscious ..... Sept., p. 100
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Looking for Challenging Lighting Sales ..... Sept., p. 103
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Visual Approach Builds Residential Sales ..... Sept., p. 104
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Two-fold Market-Two-fold Approach Sept., p. 106
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Business Up! Why? 2X Markup Sept., p. 108
Reducing residential markups has aided Duellman Electric's residential sales.

Exporting Can Be A Million Dollar Business ..... Oct., p. 78
How OHM Electrical Supply cultivates profitable foreign business.

CONTINUED

Here's how to increase your share of the profitable outdoor lighting market

Sell the electrical contractor

Revere helps you sell the contractor because Revere's widest line of outdoor lighting products makes it easy for him to select the exact combination of components to solve *any* outdoor lighting problem. Everything the contractor needs from one reliable source simplifies your paperwork and assures on-schedule delivery.

Revere lets you offer him matched components — *structurally* matched for strength, balance, and perfect fit; *design* matched for peak lighting efficiency and best appearance.

Revere lets you offer him fast, easy, trouble-free installation. Fixtures, fittings, poles and accessories are made for each other—call backs are virtually ended.

When you offer Revere to your contractor-customers, you offer them the services of Revere's application engineering staff with its years of specialized outdoor lighting experience. Contractors know they can rely on you for Revere's fast, no-charge professional lighting layout service to solve their outdoor lighting application problems.

To start increasing your outdoor lighting profits, write today for the complete Revere catalog. And ask your Revere salesman for his cooperation in helping you sell outdoor lighting to the electrical contractor.

Revere ELECTRIC MFG. CO.

OUTDOOR LIGHTING

Revere Electric Mfg. Co. • 7420 Lehigh Avenue • Chicago 48, Illinois (In suburban Niles)
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In Canada: Curtis Lighting, Ltd., Leaside, Toronto, Ontario

sell the owner/developer

sell the architect/engineer

sell the electrical contractor

sell the plant electrician

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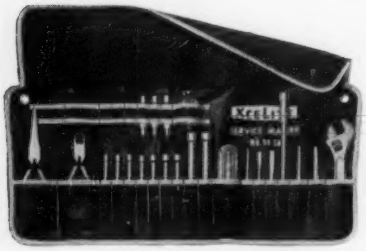

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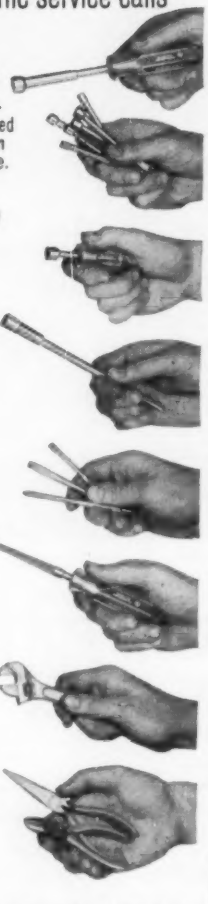

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Credit and Collections—Today Aug., p. 43
A nation-wide survey pinpoints the credit and collection situation.

What's Your EMP? Aug., p. 69
Here is your guide for measuring your Electronics Market Potential.

Spotlighting Top Creative Sales Ideas Sept., p. 69
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What You Should Know About Modern Motor Control Oct., p. 88
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The Case for the Ethically Operated Warehouse Dec., p. 48
One agent's strong defense.

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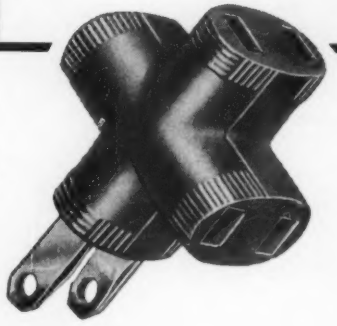

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Golf, Mardi Gras—and Serious Business, Too ..... Mar., p. 93
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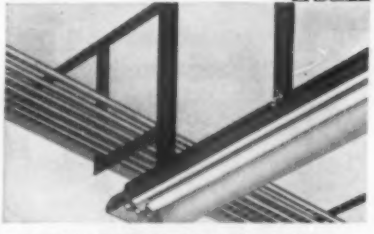

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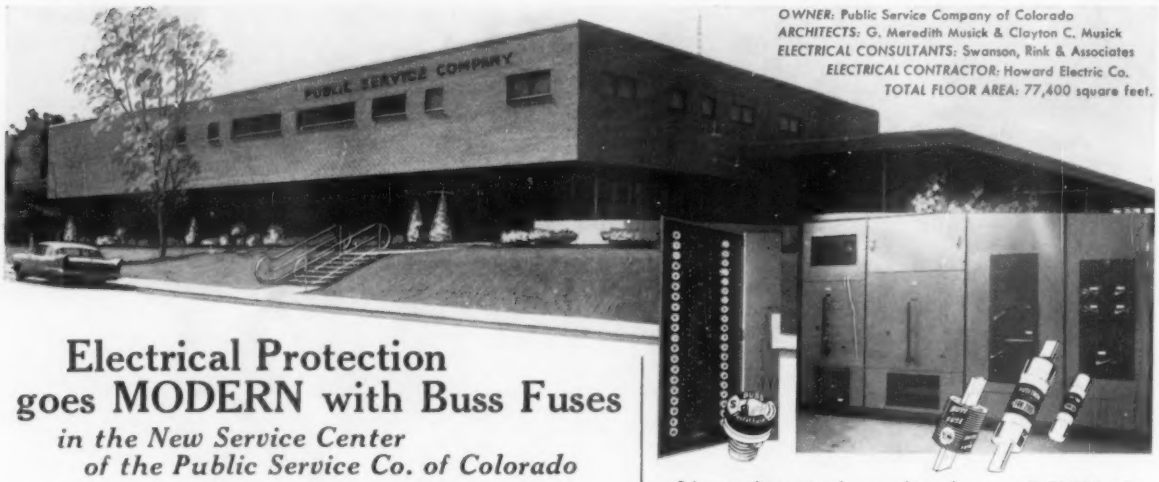

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ELECTRICAL CONSULTANTS: Swanson, Rink & Associates
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